UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

January 2, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Capt. Crandall:

I find that it will be necessary for me to go to Los Angeles for several days during the course of the coming week, and I shall take advantage of the opportunity that this presents of going on to San Diego. I expect to be in San Diego Monday, January 6th, and should like very much to see you while I am there. I shall call you up when I get there.

With kind personal regards,

Very truly yours,

J. W. Turrentine

In charge.

B

THE DIAMOND MATCH CO.
OSWEGO. N. Y.

January 5,1918.

Subject: Kelp Harvesting.

Mr.W.C.Crandall,
The Scripps Institution,
LaJolla, Calif.

My dear Mr.Crandall:

Your letter of December 24th duly received. I wish to thank you not only for your kindness in immediately taking the matter up,which was of such vital importance to us, but also for advising me as to just what has been done and accomplished. I appealed to you as I felt that you would see that justice was done to all parties concerned and that is all that we wish to request.

We have endeavored to operate our plant at East Wilmington in a broad gauged manner and to meet all parties and allied companies in the same spirit. Unfortunately with State and Government officials there seems to have arisen from the start a misunderstanding as to our policy. The attitude that we have maintained at East Wilmington, we ourselves consider to be absolutely fair and right. This attitude however has interfered to a certain extent with these officials obtaining information that they desired. However if these officials were to put themselves in our place, I am sure that they would be broad minded enough to admit that the course that we have pursued is a very fair one, even though it may be ultra conservative.

W.C.C.

We have stedfastly refused to allow any one to go through our plant. This has not only included outsiders, but insiders, as we have not even allowed our own organization men to go through this plant. We felt that this was the safest policy to pursue as if we made a hard and fixed rule, we were in a position to show no favoritism to any one and thereby we hoped to avoid all criticism. Possibly we have been ultra conservative in taking this course, but on account of the publicity given to kelp manufacturing and also unfortunately to the considerable number of people who have tried in an illegitimate manner to enter this industry and plunder people in stock jobbing and other enterprises, we decided at the start to allow no one to enter our plant. We have not meant to be discourteous to any one and we wish to co-operate with any parties along lines that we consider to be constructive. We cannot see however how this is gained by allowing people to go through our operation and see what we have done. We are a private company operating to make a necessary material for a necessary industry. We are not putting any product on the market so that the public is not interested in this enterprise of ours , besides which we have spent a very much greater amount of money than we originally expected and if we have had any measure of success, we have considered it, and I am sure that you would consider it if you were in our place, a business policy to protect our interests in every possible manner.

At some later date, it may be that we will consider the allowing of certain officials to go through our plant, and if so, I consider that you are the first man who should see our plant,

and what we have been doing, if you should care so to do. Should this time occur, I shall take particular pleasure in either personally taking you through the plant or having the plant shown to you.

As far as assisting us in our operation however, I cannot see that even an inspection of our plant could be of any particular value to you or to any other Government official. As I understand it, you would like to know all our needs and I am sure that we are very glad to advise you as to what these needs actually are. Our plant was built on the basis of using 250 tons of kelp a day and we could operate on such a quantity, if we could get it. Our plant processes have been standardized and perfected so that there is little more to do along this line. The plant itself is successful, except that we cannot get kelp. We are able to run only on about one third capacity. Our needs therefore, and our only need is kelp.

The one disappointing part of our operation is that we have found that instead of having more kelp available than can be used by the several companies operating, there is not anything like the amount of kelp necessary for the few companies that now exist, even though two of the companies at Long Beach have gone out of existence.

We appreciate the fact that the other companies are up against the same proposition and that they always will be up against the same proposition, and it is just on account of this that we consider it most unfair for some other company operating four or five hundred miles away from us to come up

into our territory and cut. If these companies are getting all the kelp there is within a reasonable radius, and certainly three or four hundred miles is a reasonable radius, then they are getting all the kelp that is legitimately theirs and they should allow other companies to get what kelp there is within their reasonable radius.

Our outfits during the latter part of December had to go out and cut only ten or fifteen tons apiece per day because the Southern companies came up and cut off the Redondo beds which we had been waiting to use. Unfortunately it did not pay us of course to keep an outfit cutting all day for ten tons, but we must have the kelp and I instructed our men on the Coast that they would have to get out every day with both of the outfits, no matter how little kelp they might get. We are manufacturing a necessary article and we must have potash in order to manufacture this article and we therefore must have kelp, no matter what the cost of it is to us.

We wish to maintain our relations with all parties in the West in a broad gauged and broad minded manner. We appreciate your view of our attitude from your standpoint, and I hope that after considering the above you will also appreciate our view.

I am afraid that I have subjected you to some personal expense in connection with the wire that I forwarded to you and I would appreciate your advising me as to just what this was, or advising Mr.Piper at East Wilmington and I will see that you are reimbursed for the amount.

W.C.C.

Thanking you for your kindness in protecting our interests in a legitimate manner, I am,

Yours very truly,

F. J. D. Cruser

Efficiency Engineer.

FVDC:K

UNITED STATES DEPARTMENT OF AGRICULTURE

FWB-PMH

BUREAU OF SOILS

WASHINGTON

INVESTIGATION OF FERTILIZER RESOURCES

January 7, 1918.

Captain W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Captain Crandall:-

I have your letter of December 31, containing very interesting information about the various kelp-plants and also the harvesting data. I am sending copies of this material to Dr. Turrentine, although it is possible you may have supplied him with copies already. I am also writing him in view of what you say in your letter requesting him to cooperate with you in securing as complete a record of each of the large potash-from-kelp developments on the coast as you can secure. A history of these developments should unquestionably be on file in the Bureau of Soils for future reference and especially I am anxious to have detailed information as to their reasons for going out of business. This is a question which may be put to us at any time and which we should be in a position to answer fully. Will you not discuss this matter with Turrentine at the first opportunity and take such steps as seem advisable to secure this information?

I wish to thank you for the very interesting reports you have sent to us from time to time with regard to the kelp situation and with best wishes for the new year, I am

Very truly yours,

Milton J. Dietz

Chief of Bureau.

PWB-PMM

January 7, 1918.

Captain W. J. Crandall,
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La Jolla, California.

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Very truly yours,

Chief of Bureau.

COMMISSIONERS
F. M. NEWBERT
M. J. CONNELL
E. L. BOSQUI

EXECUTIVE OFFICER
CARL WESTERFELD

FISH AND GAME COMMISSION
OF CALIFORNIA

SAN FRANCISCO January 8, 1918.

Mr. W. C. Crandall,
Scripps Institution,
La Jolla, California.

My dear Mr. Crandall:-

Mr. M. B. Rice, Secretary of the Redondo Beach Chamber of Commerce, sent us a few days ago a couple of photographs showing the Redondo beach piled with kelp just before the order was issued closing the kelp beds opposite; also a photograph at the same place taken a short time after the closing order went into effect, showing little or no kelp on the beach. He is using this evidence to get us to issue a permanent closing order for the bed. We told him that we could not issue such an order without consulting both Mr. Nidever and yourself. He said he would take the matter up with Mr. Nidever and see if a conference could not be arranged at Long Beach with him, and if you are unable to be present he will go on down to La Jolla.

The matter evidently needs a pretty thorough investigation, but for all we know you may have already made such an investigation. It seems to us that some arrangement can be made that will be satisfactory to all without permanently closing any bed and we trust that you will go into the matter thoroughly with Mr. Rice and arrive at some satisfactory conclusion with him. If possible, we wish to avoid antagonizing the pleasure beach interests, all of which you understand as well as we.

Yours very truly,

N. B. Scofield In Charge.

Department of Commercial Fisheries.

NBS:GC

2.75
1.75

1.00
.10
.75
.25
.25
.05

2.45
.10

1.00

COMMISSIONERS
F. M. NEWBERT
M. J. CONNELL
E. L. BOSQUI

EXECUTIVE OFFICER
CARL WESTERFELD

FISH AND GAME COMMISSION
OF CALIFORNIA

SAN FRANCISCO January 10, 1918

Mr. W. C. Crandall,
Scripps Institution,
La Jolla, California.

Dear Mr. Crandall:-

We are enclosing bill No. 2691 from the Rodney Stokes Company, San Diego, for 150 blue line prints of kelp bed maps. We suppose this is a second lot of maps . We are returning the bills for your O.K.

The Board of Control requires us to submit estimates of expenses in advance. We have a standing estimate of $5 per month for blue prints which does not come anywhere near the present bill. We had to do some explaining to get the other bill through, so if anything of this sort comes up again in the future, first take the matter up with us so that we may submit estimates in advance and get the approval of the Board of Control.

Yours very truly,

N. B. Scofield In Charge.

Department of Commercial Fisheries.

NBS:GC

Jan.14th 1918.

Mr.N.B.Scofield,

San Francisco,Cal.

My dear Mr.Scofield:

Your letter of instructions was entirely clear. concerning more blueprints. Now as to an excuse, there is really none to offer other than that Mr.Nidever was so insistent that he needed more copies at once that I ordered them at his request. I spoke of your letter but he insisted that he could not wait so long so I fired in the order. I suggest that in case this is to put you to so much trouble that you return the same, put in a preaudit for the same and I will carry the bill until it has passed through the correct channels. I am in error in the matter and my office should stand the trouble that may be caused by the same.

There is still the matter of seeing the Santa Barbara people concerning the opening of the beds off their beach. When do you think you could get down there, so that we might take the matter up with the proper authorities or do you prefer that Mr.Nidever and I take the matter up when we can arrange for a trip?

Yours truly

W.C.Crandall

Business Manager.

Jan. 1918

Kelp Trip.

Jan.16 Drove to Long Beach.
Jan. 17. Drove to Los Angeles and ordered materials for Davi and Brown also got thermometers from Customs House.
11 P.M. Note from Capt. Morris at hotel
Jan. 18 Had Morris in ot breakfast and he reported that Long Beach harvesteers were Bed #9.
Left at 8:30 with Nidever for Redondo and took up kelp situation with Mr.Madison Pres. C.of C. Went over entire situation with him as matters pertained to Redondo Beach and he promised to report the matter at thenext meeting Jan, 25th.
12. Noon San Pedro. Ordered Imp for next day.
1:30 P.M. Visited Piper who reported diver use by S.P. and P.P. Went over kelp possibilities.
2:30 Visited Sea Products.
They told of use of diver a cutter 10' on each edge with an 11' spread that is dragged on or near the bottome. Used this in Redondo and Point Fermin beds. Tried in White's Point. Claim kelp gave 25% greater ash yield. Nidever had already stopped their using this apparatus. Believe the apparatus would be ultimately harmful to beds that it was used in.
Through conversation happened upon the fact that they misunderstood F and G letter concerning agreement and had that day cut in #9. Understood order from telephoned instructions from Mr.Judson that the order read from Point San Juan. Straightened them out on this.
Looked at two new towed harvesters each to carry about three hundred tons. To be towed from two bits.
3:30 Visited Pac. Prod.
Found they had used the "Diver" without success and then had given the matter up.
Found they had also misunderstood the order and had been in #9.
4:30 Visited Long Beach Tune packing Co. Find name changed to West Coast Packing Co. Mr.Tdwet as Manager and Mr.Aichus as foreman
9: P.M. Wired Capt Morris to withhold opinion concerning cutting in #9 until I could return.

Jan. 19. Took Imp at 7: A.M. and ran up alongg Coast. Found kelp at Movie Camp above Long Wharf, Santa Monica.: off Topnaga Pass: draw 1 mile west; old kelp in sight at Point Dume, too heavy a wind to tell extent: kelp to west of Point Dume along coast. Returned at 10:30 P.M.
Jan. 20 Changed plans and retruned to La Jolla after calling up Mr. Nidever and telling him about the kelp supply, Mr.Clendennon and Mr.Piper. Was unable to get Mr.Bollus, Mgr. of Sea Prod.
Arrived home at 3 P.M.

Kelp Trip.

Kelp Trip Jan. 21st 26th Incl. 1918

Jan. 21 12:45 P.M. Left on R.R. San Diego.

1:30 Met Bent, Wayson and Morris relative to the cutting of beds in # 9 explaining the misunderstanding of the Sea Products and Pacific Products.

3:00 Left on Santa Fe for Santa Barbara.

11:30 Arrived in Santa Barbara. Stopped at Barabara Hotel.

Jan. 22 A.M. Called up Turrentine and L.H.Thompson and had a talk concerning the kelp situation in that region.

3:P.M. Called on and telked with Sen.Thompson. Explained that we trusted that we might open the Santa Barbara beds and use them during Apr. and May ad then in Sept. and Oct. Sen Thompson agreed and asked me to see Storke, Rice and papers.

Jan. 23 Took trip on Golden West with Porteous as far as bight beyond Point Conception.

Bed #22 Kelp old little new kelp in sight
23 25 " " " " " " " . Advised cutting.
24 26 28 old " " " " " . " "
29 30 31 old " " " " " . Advised letting alone in order to anticipate any future difficulty with other districts.

Jan. 24 Santa Cruz Is. Excellent mature kelp. Good growing condition Beds start at SE and seem to be in good shape along south lea side of islands Beds then off Carpenteira visited #20 and 21. Kelp in #20 excellent on easterly end. Same true in 21. Mature not old, growing tips. Beds returning in excellent shape.

Advised rotation of cutting in Barbara District.

Jan. 25th. Interviewed C.A.Storke Santa Barbara News. Will aid.

Sam Stanwood Asked letter to Board of Supervisors.

Milt Rice Asked for telk Feb .1st

L.H.Thompson Genral talk.

Left at 2:30 Telephoned Nidever from Los Angeles.

Jan. 26th. Arrived home at lo A.M. Wreck on La Jolla Line.

HOWARD W. JUDSON
PRESIDENT

ROLAND G. SWAFFIELD
VICE-PRESIDENT

W. E. PRIVETT
SECRETARY-TREASURER

SEA PRODUCTS COMPANY

(INCORPORATED)

MANUFACTURERS

FACTORY:
CHANNEL NO. 2, WEST SEVENTH ST.

MAIN OFFICE:
510-511 LONG BEACH BANK BUILDING

BRANCH OFFICE:
65 EIGHTH STREET, SAN DIEGO, CAL.

DICTATED BY HWJ TO G.

LONG BEACH, CAL., January 22, 1918.

Captain W. C. Crandall,
c/o Scripts Institute,
La Jolla, Cal.

Dear Sir:

The writer was very sorry to have missed you on your last trip here, and especially so inasmuch as it seems there is a little misunderstanding as to our harvesting crews having been at the San Juan point bed.

The writer is of the opinion that this mix-up was caused more by the verbal word of one of the representatives of the Fish and Game Commission who called at this office during my absence and left word with one of the employees that that bed was open to the Long Beach people.

Although the kelp was very scarce at Point Firmin, or the White's Point bed in which we were cutting, we had not asked for the privilege of going South, but as it came voluntarily from the Fish and Game Commission, we presumed that it had been talked over with the San Diego people, and without further investigation notified our harvesting crews to go down there, which they did, cutting one load of 100 and some few tons.

We very much regret the incident if we were in error, and take this means of assuring you that we desire to live up to our agreement to the letter.

Mr. Geo. H. Ennis and the writer had occasion to go to San Diego a couple of days ago, and noticed that from San Juan Point south, the kelp was about the most plentiful that either of us had ever noticed, and it seemed very regrettable that that entire length of kelp bed should be kept open or closed at one and the same time rather than splitting it in two or three parts in which case it would have been unnecessary for the San Diego Companies to have come into our Redondo bed recently, occasioning us no end of expense and trouble as we

SEA PRODUCTS COMPANY
(INCORPORATED)
LONG BEACH, CAL.

TO Captain W.C. Crandall PAGE 2 DATE Jan. 22, 1918.

had to shut down so much and let so many of our crew go, that it is very hard to hold our organization together besides causing us about a month's loss of operation.

Sincerely thanking you for the hearty co-operation you have shown during the development of the kelp industry, we beg to remain

Yours very truly,

SEA PRODUCTS COMPANY,

By Howard W. Judson
President.

Jan.28th 1918

Howard W.Judson,

Long Beach,Cal.

My dear Mr.Judson:

Your letter of the 22nd is at hand. I trust that I have straightened out the matter that seemed to get mixed up regarding the last agreement. I believe that it is to the ultimate interest of every one to keep this agreement if possible. I have figure up average hauls since the meeting and with the exception of Santa Barbara Is.,there can be no reason as I look at it for any real difference of opinion and the amount involved there in quantity of kelp is so small that I believe that it is best to have the arrangement stand as agreed upon at least for the present.

The matter that you mention concerning the kelp beds north has already been taken up as you will see by the new closing orders that will be out as soon as Mr.Hidever can issue them.

The other fellows kelp always looks better than one's own but you have some dandy kelp between Santa Monica and Point Mugu and there are two beds on the East end of Santa Cruz that will make your mouth water when you get into them. At present there is plenty of kelp for all. I hope that this condition will hold out so that no repetition of the last year may occur again. Above Naples there is also an abundance of kelp.

Sincerely yours,

Kelp Investigator.

Jan.26th 1918

Mr.N.B.Scofield,

San Francisco,Cal.

My dear Scofield:

I was in Santa Barbara last week looking over the kelp beds and incidentally I had a talk with Senator Thompson, C.A.Storke of the News, Milt Rice Pres. C.of C. I explained the kelp situation to them and they are agreed that it will be agreeable to them to have the kelp beds harvested in #22 during Apr. and May closed until Sept. Opened then for a couple of months and closed for the winter. Mr.Rice asked however if I would come up and speak before and open eeting of the Chamber of Commerce on Friday night Feb. 1st. This I promised to do if the date was finally satisfactory to them at the same time telling them that I would ask you to be there also. If I hear from them to the effect that I am to go up there on Friday night, I will wire you and then hope that you can be there. The people there will appreciate your being there,and it will have a good effect as they like to feel that they are told concerning movements. Try and get there if I wire if possible.

I am writing some suggested rules and will sent them to Nidever and ha have him forward them after he has gone over them so that you may have our combined suggestions.

Hoping to see you soon, I am

Sincerely yours

Jan.28th 1918

H.B.Hidever,

Long Beach,Cal.

My dear Hidever:

I suggest that the following rules and suggestions be made to the kelp companies:

Rule 1. Beds are to be to the windward edge.

Rule 2. No cutting apparatus, not now sanctioned by the Fish and Game Commission, is to be used by any kelp company without first getting the approval of the Fish and Game Commission.

Suggestion and Request:

That eaxh company in making its report state the number of the bed and quantity cut from each bed in their regular monthly reports as well as giving the total cut.

Remarks: If the beds are cut along the windward edge a more uniform cut will be made and the drift kelp will be caught in the edge and picked up on the next cut. Also the bed will yield more kelp in tonnage for the companies. Their present attitude in some places in cutting in the thick parts of the beds is wasteful both in kelp and in the time of harvesting the bed. If each company will figure on averages rather than on immediate results they can easily see their present mistake.

In case of rule #2, it is evident that there must be some hold on the companies or they will do things that are not for the good of the beds. The recent apparatus of the Sea Products would not work as rigged up except by dragging on the bottom and as a result could not help doing harm in the beds it was used in. I have suggested certain changes in this and have asked the Fedral Plant to try and see if an apparatus can be rigged that will be

THE SCRIPPS INSTITUTION FOR BIOLOGICAL RESEARCH
OF THE
UNIVERSITY OF CALIFORNIA

LOCATED AT LA JOLLA
NEAR
SAN DIEGO, CALIFORNIA

LA JOLLA, CALIFORNIA,

Jan.28th 1918

H.B.Nidever,

Long Beach,Cal.

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be usable at greater depth but which will not harm the beds. Now that the Federal Plant has taken on Shoaf as plant foreman, we will be able to get work of this kind done.

Jan. 28

Closing suggestion. Feb.1

		Open	Closed
Bed #	1 Tia Juana	Open	
	2 S D Bay	Open	Feb.15th to Apr.15th.
	3 Pt.Loma	Open	Feb.15th to Apr.15th.
	4 La Jolla	Open	Mar. 15th to Apr. 15th.
	5 Del Mar	Open	Apr. 1st to June 1st
	6 Encinitas	Open	Apr. 1st to June 1st
	7 Oceanside	Open	Apr, 1st to June 1st.
	8 Mateo	Open	Apr. 1st to June 1st.
	9 San Juan	Open	Apr, 1st to June 1st.
Bed #	10 Laguna	Open	Feb. 1st to Apr. 1st.
Bed #	11 San Pedro	Opened	Mar. 1st to May 1st.
Bed #	12 Point Fermin	Open	Mar. 1st to May 1st.
Bed #	13 White's Point	Closed	Feb. 1st to Apr. 1st.
Bed #	14 Redondon	Closed	Jan. 1st to Mar. 1st.
Bed #	11 San Pedro		June 1st to Aug. 1st.
	12 Point Fermin		June 1st to Aug. 1st.
	13 Whites Point		May 1st to July 1st.
	14 Redondo		Apr. 1st to June 1st
Bed #15	Santa Monica	Open	
Bed #16	Point Dume	Open	
Bed #17	Mugu	Open	
Bed #18	Ventura	Open	
Bed #19	Gorda	Open	
Bed #20	Carpenteria	Open	Apr. 1st to June 1st.
Bed #21	Summerland	Closed	Federal Reservation.
(Bed #22	Santa Barbara	Closed	Feb.1 to Apr. 1st
)Bed #22	Santa Barbara		June 1 to Sept. 1st.
Bed #23	S.B.T.F.	Closed	Federal Reservation.
Bed #24	------	Open	Mar. 1 to May 1
#25	Mores	Closed	Federal Reservation.
#26	Goleta	Open	Mar. 1 to May 15.
#27	Coal Oil Pt.	Closed	Federal Reservation.
#28	Naples	Open	Mar. 15th to June 1st.

Bed #29 Capitan to Bed #45 inclusive Open.

By agreement 29-31 incll are available for all companies.
" " 32-39 incl. are available for all companies.
" " reservations are placed on Beds# 40- 45 Incl.

Suggest that you go over suggested rules an suggestions and if they look good to you that you send them to Scofield and then that he

get out a circular letter to the companies along these lines.

For closing orders not that Beds 11-14 incl have double set so as to carry us unt l after June 1st. I have tried to work the orders up so that we will not have any further order to make until July 1st. This may not be possible on account of a storm or other contingency coming up but so far as I can foresee, I think we are pretty safe.

I hope that I have made myself clear in the closing orders so that the companies will not get mixed up again.

Sincerely yours

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

INVESTIGATION OF FERTILIZER RESOURCES.

Jan. 28th 1918

To the Honorable, The Board of Supervisors,

Santa Barbara, Cal.

Dear Sirs:

This is to advise you of ce5tain reasons regarding the desireability of opening the kelp beds now officially known as "Santa Barbara Bed #22" during the months of Apr. and May and Sept. and Oct. for harvesting by kelp companies.

Storms that are dangerous to your coast occur before Apr. 1st so that protection will be secured from the beds during that period.

As the kelp practically replaces itself in 60 days a harvesting in the Fall would give ample time for a strong regrowth before another period of storm would occur.

Beds harvested will have a mature but not old growth present during your storm season and the breakwater effect increased for your benefit.

By harvesting at the periods stated above the kelp beds will be cleared of the mat of old kelp and as a result your beaches freed from a considerable quantity of drift kelp during the months of June/July, Aug.

We believe that itis to your interest for us to regulate the beds for harvesting in this manner. If you find or we discover that we are in error, we shall be pleased to have you inform us immediately concerning any question so that the error may be corrected at once.

Yours truly

State Kelp Investigator.

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT 12 BY HW 41 BLUE 4 EX

SANTABARBARA CALIF 1032A JAN 29 1918

W C CRANDALL,

CARE FISH AND GAME EXPERIMENT STN.

WE CAN GET BEST RESULT ON KELP MEETING HOLDING IT THURSDAY AFTERNOON FEB 7 IF NOT TOO LATE FOR YOU OTHERWISE WILL ARRANGE FOR THIS FRIDAY NIGHT PLEASE ANSWER AT ONCE ALSO WHEN STATE BEGINS TO CUT

GEORGE WIGH, SECY CHAMBER OF COMMERCE

1110A

Telephone No. 17W

Telephoned to Mr C.

Time 11:25 AM

By [illegible] To be

Jan. 29th 1918.

Mr. George Wigh,

Chamber of Commerce,

Santa Barbara Cal.

Dear Sir:

Your telegram of the 29th a ahnd. Just wired you accepting Feb.7th date. This is more satisfactory f r me as Friday was going to hit me on my first of the month work. I am writing Mr. Scofield, Fish and Game Commission, San Francisco, Cal. to be there also on the 7th.

Tentatively we expect to harvest during Apr. and May under supervision.

Sincerely yours,

Business Manager.

Jan.29th 1918.

N.B.Scofield,

San Francisco,Cal.

My dear Scofield:

Just had a wire from the Santa Barbara Chamber of Commerce asking for a meeting on the 7th during the P.M. Try and come down on the Lark and I will meet you in Santa Barbara on the morning of the 7th, Thursday and we will go over the various plants etc during the morning. I will stop at the Hotel Barbara. Let me know if you can meet me there as otherwise I may not go up until Thursday morning from Los Angeles.

Yours sincerely

Business Manager.

PRESIDENT
PHILIP H. RICE

TREASURER
ALFRED EDWARDS

GEORGE WIGHT, SECRETARY

CHAMBER OF COMMERCE
OF
SANTA BARBARA COUNTY

Office of the Secretary
Santa Barbara, California

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R. H. STERLING
BYRON Z. TERRY

January 29, 1918.

Mr. W.C. Crandall,
La Jolla,
California.

My dear Mr. Crandall:--

I have your telegram in reply to my message, saying you will be here on Thursday, and we will accordingly arrange for a special meeting of the Board on that afternoon or evening. If the evening should not fit in with your plans, kindly let me know.

Will you kindly do me the favor to write me any information, for publicity purposes, just what is new about the kelp situation that will come up at this meeting. Any information you can give me will help in giving out publicity before the meeting.

Very truly yours,

George Wight

SECRETARY.

GW.W.

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
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MAKERS OF
POTASH AND FERTILIZERS

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
SUMMERLAND
SANTA BARBARA COUNTY
CALIFORNIA

Summerland, Calif.,
January 30, 1918.

Dr. W. C. Crandall,
Scripps Institution,
La Jolla, California.

Dear Dr. Crandall:

Dr. Turrentine has just notified me that your meeting with the Chamber of Commerce here has been postponed from Friday, February 1st, to Thursday, February 7th.

I assume from this that you have connected with Mr. Scofield and that both of you will be here on Thursday, the 7th.

Mr. Rice came over to me at the Club the other day and took your card out of his pocket, and asked me, "What do you know about this man?" I told him that you had been making a scientific study of kelp since 1911, at which time you made a survey of the whole coast for the United States Government, etc., and so on. Mr. Rice then told me that you had called on him, and that he was glad to hear that you and the State Fish and Game Commission were handling this matter in a scientific way, and that as far as he was concerned he could see no objection to the citizens of Santa Barbara community putting all of this kelp area in your hands.

I mention this briefly to show you the good impression you made on Mr. Rice, and that the sentiment, I am sure, seems to be favorable for the accomplishment of the result you desire at the meeting you have planned here.

I shall look forward to seeing you next Thursday.

Very truly yours,

L. H. Thompson

Vice-President.

LHT*ELB

COMMISSIONERS
F. M. NEWBERT
M. J. CONNELL
E. L. BOSQUI

EXECUTIVE OFFICER
CARL WESTERFELD

FISH AND GAME COMMISSION
OF CALIFORNIA

SAN FRANCISCO January 31, 1918.

Mr. C. W. Crandall,
Scripps Insitute,
La Jolla, California.

Dear Crandall:-

I have received your letter of January 26th and also your telegram stating that the public kelp meeting that is called at Santa Barbara is to be on February 7th. I have just received a letter from Dr. Turrentine in which he speaks of this being on next Friday and I suppose next Friday was the tentative date set and that your telegram gives the final and right date set. I will make it a point to be at the meeting and trust that you and Nidever and I will have time to go over the kelp rules and regulations in detail while I am down.

I had a letter from Dr. Ritter in regard to a paper which garbled an article in reference to your appointment on an investigation of the Mexican fisheries situation. My attention was called to the article but I paid little attention to it. I find it extremely difficult to write about matters that are inclined to be delicate and I think that correspondence on such subjects are more apt to lead to misunderstanding than to clear up the atmosphere. The more I think over the matter the surer I am that if we were to make a clear exposition of just what we are striving to do in our commercial fisheries work, that there will be no cause for conflict between our Commission and any other insitution. We are preparing such a statement of our aims for our "California Fish & Game" and I hope that I will have an opportunity to discuss the matter with Dr. Ritter and you in the near future.

Yours very truly,

N. B. Scofield
In Charge.
Department of Commercial Fisheries.

NBS:GC

COMMISSIONERS
F. M. NEWBERT
M. J. CONNELL
E. L. BOSQUI

EXECUTIVE OFFICER
CARL WESTERFELD

FISH AND GAME COMMISSION
OF CALIFORNIA

SAN FRANCISCO February 2, 1918.

Mr. W. C. Crandall,
Scripps Institute,
La Jolla, California.

Dear Crandall:-

Our passes are not good on the "Lark" but if the Government takes up our passes before Wednesday, as it seems likely they will, I will come to Santa Barbara on the "Lark", arriving there early Thursday morning. If we still have the passes I will come down on one of the trains which get there a little later in the morning.

I will look you up at the Hotel Barbara and we can look over the kelp plants together.

Yours very truly,

N. B. Scofield

In Charge
DEPARTMENT OF COMMERCIAL FISHERIES

NBS:GC

Feb. 4th 1918.

Mr.N.B.Scofield,

San Francisco,Cal.

My dear Mr.Scofield:

Enclosed find letter from Santa Barbara Chamber f Commerce explaining the program. Will see you someti e on Thursda and will bring along some of my fi es so that we can have ev rything to work with connected with the kelp situation.

Ennis and Judson have just been down asking for some kelp about San Juan in Bed #9 and I have referred them to Bent and Watson. Bent is willing to let them have it but Watson is apparently not. If both are not then it will be a metter that will have to be turned down. If both are willing then it is amtter between them and is out of our jurisdiction. It will come under the "Gentlemen's Agreement."

Hoping to see you on Thursday, I am

Sincerely yours

Business Manager.

POSTAL TELEGRAPH—CABLE COMPANY

NIGHT LETTERGRAM

THE POSTAL TELEGRAPH-CABLE COMPANY (INCORPORATED) TRANSMITS AND DELIVERS THIS NIGHT LETTERGRAM SUBJECT TO THE TERMS AND CONDITIONS PRINTED ON THE BACK OF THIS BLANK.

CLARENCE H. MACKAY, PRESIDENT.

RECEIVED AT

DELIVERY No.

INDEPENDENT COMPETITIVE PROGRESSIVE

4—669

34gsq. 57 Nl 955p

San Diego Cal Feb 6 1918

Capt W C Crandall

Cr Barbara Hotel, Santa Barbara, Cal.

Hercules and Swift willing accept your decision as per last paragraph agreement january fourth relative to longbeach cutting as far as sanjuan point provided no precedent be established and agrement remain unchanged .Believe in making your decision you should consider Kelp available other parts also effect of cutting sanjuan at this time on future rotation of beds .

Captain Watson

OPERATOR'S NOTATIONS, TIME SENT, Etc.

POSTAL TELEGRAPH-COMMERCIAL CABLES

THE GREATEST TELEGRAPH AND CABLE SYSTEM IN THE WORLD. EXTENDS OVER TWO-THIRDS OF THE WAY AROUND THE EARTH.

THE POSTAL TELEGRAPH-CABLE COMPANY (INCORPORATED)

TRANSMITS AND DELIVERS THE WITHIN NIGHT LETTERGRAM SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

The Company will receive, not later than midnight, NIGHT LETTERGRAMS, written in plain English, to be transmitted only for delivery on the morning of the next ensuing business day, at rates still lower than its standard night message rate, as follows:

The standard day rate for a ten-word day message shall be charged for the transmission of a NIGHT LETTERGRAM, containing fifty words or less, and one-fifth of the standard day rate for a ten-word day message shall be charged for each additional ten words or less in such NIGHT LETTERGRAM.

To guard against mistakes or delays, the sender of a message should order it REPEATED; that is, telegraphed back to the originating office for comparison. For this, one-half the unrepeated message rate is charged in addition. Unless otherwise indicated on its face, THIS IS AN UNREPEATED MESSAGE AND PAID FOR AS SUCH, in consideration whereof it is agreed between the sender of the message and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any UNREPEATED message, beyond the amount received for sending the same; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any REPEATED message, beyond fifty times the sum received for sending the same, UNLESS SPECIALLY VALUED; nor in any case for delays arising from unavoidable interruption in the working of its lines; NOR FOR ERRORS IN CIPHER OR OBSCURE MESSAGES.

2. In any event the Company shall not be liable for damages for any mistakes or delays in the transmission or delivery, or for the non-delivery of this message, whether caused by the negligence of its servants or otherwise, beyond fifty times the REPEATED message rate, at which amount this message, if sent as a REPEATED message, is hereby valued, unless a greater value is stated in writing hereon at the time the message is offered to the Company for transmission, and an additional sum paid or agreed to be paid based on such value equal to one-tenth of one per cent. thereof.

3. The Company is hereby made the agent of the sender, without liability, to forward this message over the lines of any other Company when necessary to reach its destination.

4. Messages will be delivered free within the established free delivery limits of the terminal office. For delivery at a greater distance a special charge will be made to cover the cost of such delivery.

5. No responsibility regarding messages attaches to this Company until the same are presented and accepted at one of its transmitting offices; and if any message is sent to such office by one of this Company's messengers, he acts as the agent of the sender for the purpose of delivering the message and any notice or instructions regarding it to the Company's agent in its said office.

6. This Company shall not be liable for damages or statutory penalties in any case where the claim is not presented in writing within thirty days after the message is filed with the Company for transmission.

In further consideration of the reduced rate for this special "NIGHT LETTERGRAM" service, the following special terms are hereby agreed to:

(a) NIGHT LETTERGRAMS may at the option of the Telegraph Company be mailed at destination to the addressees and the Company shall be deemed to have discharged its obligation in such cases with respect to delivery by mailing such NIGHT LETTERGRAMS at destination, postage prepaid.

(b) NIGHT LETTERGRAMS shall be written in plain English. Code language is not permitted.

7. The above terms and conditions shall be binding upon the receiver as well as the sender of this NIGHT LETTERGRAM.

8. NO EMPLOYEE OF THIS COMPANY IS AUTHORIZED TO VARY THE FOREGOING.

CHARLES C. ADAMS, VICE-PRESIDENT.

CLARENCE H. MACKAY, PRESIDENT.
EDWARD REYNOLDS, VICE-PREST. AND GENERAL MANAGER.

CHARLES P. BRUCH, VICE-PRESIDENT.

THE FASTEST TELEGRAPH SERVICE IN THE WORLD

GEORGE H. ENNIS, PRESIDENT

W. FRANK FISHER, SEC'Y-TREAS.

Pacific Products Company of California

(INCORPORATED)

MANUFACTURERS OF

KELP ASH, POTASH AND BY-PRODUCTS

PHONES: F 5482
MAIN 3942

GENERAL OFFICES
514-515 EXCHANGE BUILDING
LOS ANGELES, CAL.

PLANT AND LABORATORY
LONG BEACH, CALIFORNIA

February 11, 1918.

Capt. W. C. Crandall
c/o Scripps Institute
LaJolla, Calif.

Dear Capt:

As per our conversation I herewith send you list of kelp harvested, showing tonnage taken from each bed.

I trust this is in the form which you wish.

Again let me express to you my thanks for the trouble you went to in order to straighten out our last little matter with our friends below. I have not written Bent or Watson, but will do so today.

Very truly yours

Geo. H. Ennis.

GHE/D.

Feb. 13th 1918

Mr.Geo.H.Ennis,

514 Exchange Bldg.,

Los Angeles,Cal.

My dear Ennis:

Your data arrived in great shape and I thank you for it. It is just what I wanted.

I hope the high seas that are down here are not getting up your way and that you are able to get out up there and make a cut.

Watson had another fire the forst of the week and is on the hummer for about a week.

Allthe rest of us are in good shape.

Sincerely yours

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
EDW. J. PORTEOUS, ASST. TREASURER
GEO. B. HARRIS, SECRETARY

MAKERS OF
POTASH AND FERTILIZERS

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
SUMMERLAND
SANTA BARBARA COUNTY
CALIFORNIA

Summerland, Calif.,
February 28, 1918.

Capt. W. C. Crandall,
c/o Scripps Institute,
La Jolla, California.

Dear Capt. Crandall:

If I hadn't been so exclusively occupied with repairs to our plant in the last few days, I would have written you sooner to congratulate you on your appointment as Fish Commissioner for Southern California. I do this really as a matter of form. As a matter of fact, I think the congratulations are due Southern California to your acceptance of this job, and I believe that if all Government appointees during this war were as well qualified in every way to take care of their work efficiently and faithfully as you are for this work, there would be a lot less lost motion, graft, expense and delay.

I trust this additional work is not going to take you out of the Kelp work. I think everyone of the Kelp manufacturers feel that the constructive work which you are doing in this field is of the greatest value to the manufacturers as well as to the public, and I should be very sorry indeed if you had to give up that work. When you find time, wont you drop me a line and let me know?

Possibly you have heard of our accident here. We had a south-east storm last week, which wasn't very severe but which was severe enough to break the "Mayflower" away from her mooring and send her through the wharf and up on the beach. I think we can get her repaired all right and back into commission as good as ever, but the damage to the wharf has put both our plant and the Government plant out of business for at least three weeks. We have a pile-driver at work now, and making the best time possible in putting the wharf back and connecting power, conveyors, etc.

With kind personal regards,

Very truly yours,

L. H. Thompson
Vice-President.

LHT*ELB

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB.J

INVESTIGATION OF FERTILIZER RESOURCES.

Transplating Kelp

February 20, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
La Jolla, Calif.

Dear Capt. Crandall:

A representative of the Southern Railway has recently called upon me with a proposal to send a man if necessary to Southern California with the object of securing specimens of young kelp and kelp spores and transporting them by hand across the country to try out the possibility of establishing these plants on the coral rocks of the Florida coast. I wish you would let me have your ideas as to the feasibility of such a scheme and the advisability of making the trial. The Southern Railway would bear the expense and our only connection with the operation would be to cooperate so far as possible in furnishing their representative with information and affording him every facility at our disposal for securing proper specimens. If you think there is any possibility of the success of such an effort, will you give me a statement of the best time of the year for securing specimens of young plants and spores with this object in view. We have felt here for some time that if these plants could be established on the Atlantic seaboard close to the fertilizer market for potash it might be possible to establish an industry based upon simply drying and grinding the kelp. I shall be glad to have your opinion on this at the earliest opportunity.

Very truly yours,

Fredrick W. Brown.

In Charge.

Mar.1st 1918.

Chief,Bureau of Soils,

Washington,D.C.

Dear Sir:

Your letter of the 20th is at hand.

I am now in a position to really suggest a possible method of carrying kelp to the East Coast. At the base of the plant there is a large bunch of leaves present on at least older plants and these basal /leaves have spores on them. I suggest that these be obtained and shipped on fish car so that good, aerated water may be given them and that this is the best way to get the growth. I have a man working with me now who is working on this work, a botanist and he now knows more about the growth and habits of the kelp than anyone else and would be a natural man to put on such a job as you suggest of trying a replanting experiment. He is an odd genius and really would need some one to steer him about but he would handle the plant end A 1.

Enclosed find a letter from Mr.Bawder telling the details and effects of the last storm at Summerland.

Am covering the kelp situation now constantly while acting as Food Commissioner So. CalDist. for Food Administration and detailed dtat will be forthcoming as soon as I can get a breathing spell.

Yours truly

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
EDW. J. PORTEOUS, ASST. TREASURER
GEO. B. HARRIS, SECRETARY

MAKERS OF
POTASH AND FERTILIZERS

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
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FACTORY AT
SUMMERLAND
SANTA BARBARA COUNTY
CALIFORNIA

Summerland, Calif.,
March 11, 1918.

Capt. W. C. Crandall,
Scripps Institution,
La Jolla, California.

Dear Capt. Crandall:

I do not remember whether you set March 15th or April 1st as the date for opening the beds in front of Santa Barbara between Summerland and Santa Barbara Light. The water looks very red today, and there are very considerable patches of drift kelp along the whole field. It seems to me it would be well for these beds to be opened as soon as possible--the sooner the better in the interest of the beds.

We expect to be in operation by next Saturday or Monday, and the opening of the nearby Santa Barbara beds will be of advantage to us also as by virtue of the short harvesting haul we can keep our plant going to capacity with the "Albion".

Very truly yours,

L. H. Thompson
Vice-President.

LHT*ELB

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

March 13, 1918.

Captain W. C. Crandall,
Scripp's Marine Laboratory,
La Jolla, Calif.

Dear Cap'n:

I was very glad to hear of your appointment to the responsible position of Fish Administrator. Remembering your large capacity for work I am assuming that these additional duties will not interfere with the good work that you have been doing for the kelp industry. Please bear it in mind and also don't fail to remember that we are counting on the opening of the Santa Barbara bed. All local opposition to that proposition seems to have disappeared, as since the subject was opened, I have failed to hear a single adverse opinion, so I trust you and the Commission will see fit to open up the beds at some not far distant date.

Relative to the break-water action of this bed, permit me to record that the first Southeaster of the season demolished the remains of the Ocean Boulevard along the water front of Santa Barbara and piled many tons of kelp on the beach. I am told that the Southeaster was only a milk one. If this is the only break-water action that can be expected of this kelp bed, its value in that capacity I should say is practically nil.

You doubtless heard of the destruction of the "Chetco" and the escapade of the "Mayflower" with the consequent damage to our wharf. The "Chetco" is a thing of the past but the "Mayflower" is now at San Pedro and the wharf is practically finished. We got off with only a certain loss in output.

I hope you will come this way soon. Mr. Rice of the Chamber of Commerce has repeatedly asked me when you are returning as he seems to want to consult you relative to fish matters.

With kind regards,

Yours very sincerely,

J. W. Turrentine

JWT-Kn

In Charge.

March 15, 1918.

Mr. H. B. Nidiver,

518 West Sixth St.,

Long Beach, Cal.

My dear Mr. Nidiver:

I have letters and questions from the Lorned Manufacturing Company at Summerland and the Sea Products Company at Long Beach relative to the matter of closing orders. They ask concerning the opening and closing of beds adjacent to their properties. In my answers I am stating that through stress of work it has been impossible to get out the last closing order, but that undoubtedly it will be along very shortly.

I have today asked Mr. Merritt to appoint you, Mr. Bawder and Mr. Webb Toms as deputies under the Food Administration, to assist in the work of watching the fishermen. It will give you some little additional prestige among the fishermen along the coast, as they will then know we are hooking up together.

Sincerely yours,

WCC:FT

March 15, 1918.

Mr. L. H. Thompson,

Lorned Manufacturing Co.,

Summerland, Cal.

Dear Sir:

April first was the date set for opening the beds in front of Santa Barbara between Summerland and Santa Barbara Light. This information should have reached you by this time through a closing order issued by Mr. Nidiver, and I am writing him at this time to ascertain the reason why you have received no such order. As I recall it, the beds were to be open during April and May.

I am very glad to learn that you are beginning operations so soon, and trust that the damage done the property was not so bad that it cannot be quickly rebuilt.

Very truly yours,

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
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MAKERS OF
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1724 WHITEHALL BUILDING
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FACTORY AT
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SANTA BARBARA COUNTY
CALIFORNIA

Summerland, Calif.,
March 23, 1918.

Capt. W. C. Crandall,
Scripps Institution,
La Jolla, California.

Dear Capt. Crandall:

Thanks for your favor of the 15th instant. Since then I have received the new closing order, which fits in with our plans all right. To be sure, it requires us to harvest beyond Santa Barbara Light during the month of June, but I think we can get by with that all right.

We are in operation again with the "Albion"--in fact will be able to keep going with the "Albion" so long as she is able to harvest close enough to home to be able to make two loads a day about two days a week and one load a day all the rest of the time. This means, of course, that when we have to put her on the ways for repairs of any sort, we are up against it--but during the next three months I hope to be able to work out some sort of an auxiliary harvesting equipment that will properly fortify us.

With kind regards,

Very truly yours,

L H Thompson

Vice-President.

LHT*ELB

COMMISSIONERS
F. M. NEWBERT
M. J. CONNELL
E. L. BOSQUI

EXECUTIVE OFFICER
CARL WESTERFELD

FISH AND GAME COMMISSION
OF CALIFORNIA

SAN FRANCISCO March 27, 1918

Mr. W. C. Crandall,
La Jolla, California.

Dear Mr. Crandall:-

Your article entitled "A Review of the Kelp Industry" was received a few days after the material for our magazine "California Fish & Game" had gone to print. I took the matter up with Bryant and he said there was yet time to send it in if we would cut out other material but suggested that we let it go over until the next number and make that a kelp number. He said that he had been reviewing the article by Porteus and had some correspondence in regard to it and also some new material from Porteus which would be put in shape for publication in the next number. We have had copies made of your article and are sending one herewith so that if you get any new material during the next two or three months you will be able to add to it. Material for the next number will be due the 5th of June.

I was not able to make a trip to Southern California at the time Mr. Bosqui and Mr. Westerfeld went down for my oldest boy was taken to the hospital for an operation for appendicitis. I expect to get down in the near future and will certainly see you. I expected you would be up for the Semi-Centenial exercises at the University but surmise that you have your hands full with the fish situation down there. I saw Dr. Ritter and had a talk with him about conditions in your part of the State. If any of our men in Southern California can help you we hope you will not hesitate to call upon them, also if we can be of assistance at this end at any time we will be pleased to do what we can.

Yours very truly,

N. B. Scofield
In Charge
DEPARTMENT OF COMMERCIAL FISHERIES

NBS:GC

La Jolla, Cal.

Mar. 28th 1918

Chief, Bureau of Soils,

Washington D.C.

Dear Sir:

At present the kelp situation in Southern California is as follows San Diego Region:

Hercules Powder Co. getting about 800 tons wet kelp daily and have just completed the run up the coast as far as San Juan Point and are now working at San Clemente Is. They report excellent cutting conditions all the way up the coast. This season shows the largest cut they have made from these coast beds.

Swift Co. getting about 250 tons wet kelp daily. Of this they receive about 100 tons from the handpickers and the rest is taken from their barges and harvestors. Swift & Co. has had two bad fires and also has been unfortunnate with their large harvestor.

Report from Mr. Brandt and Mr. Ross who are acquainted with the regular kelp survey details is that St. Nicolas Is. is on the best of shape on the East end for cutting now. I hope to get Hercules and Swift to go over there the last of the month or the first of next month.

San Pedro Region.

(Diamond Match Co.

(Pacific Products Co.

(Sea Products Co.

Are all shy on wet kelp. Beds in and about San Pedro

,Redondo, and Point Dume have not been to capacity this winter. This is due to a large extent to the fact that the beds are only given two mo months resting period between the cuttings and they need at least another month. On account of the inefficient harvesting apparatus the beds have really been poorly treated. This will be rectified so far as possible this summer.

Another impo tant reason is that the Sea Products worked a machine called a diver that was nothing less than a sharp drag which was dragged along the floor of th ocean and cut the kelp next to the holdfast and in the majority of cases tore the holdfast loose. Result is that the beds where this was worked are clear under capacity this winter. This apparatus is now destroyed and the kelp companies are feeling the results of its work.

These companies are now figuring on going to Naples or above for their kelp during the summer.

Santa Barbara Region:

Kelp in good condition but ready for harvesting according to a letter from Dr.Turrentine.

Federal Kelp Experimental Plant

Lorned Manufacturing

Cal.Chemical Co. Name now changed but I have not found out what it is yet.

See letter Mar. 1st with enclosure of C.S.Bauder for accident that have happened in that region. Letter form Mr.Thompson shows that they will be ready to start in a short time in fact they must be working now.

This year there will be a great deal of activity from Santa Barbara North as the Santa Barbara bed will be opened to the Lorned Mnf.Co. and the Cal. Chem.Co. for harvesting while the territory above Naples will be harvested mostly by the Long Beach and San Pedro Companies. I anticipate little trouble in handling the situation this year though as the companies now seem to realize that the gentlemen's agreement is for their com on good.

Yours truly

Collaborator.

Ship yards of Fellows & Stewart Inc.
Wellington Calif.
April 11- 1918.

Dear Mr Crandall.

Could you conveniently answer the following questions which I would be greatly indebted to you. — however if for any reason you cant, dont be afraid to say so.

1 How many concerns are harvesting kelp?
2 Total investment in industry?
3 Number of wet tons harvested in 1917?
4 How many harvesters are cutting kelp?
5 What is your estimate of the potash per acre or square mile?

We have the Mayflower on the ways being repaired from her recent overland expedetion.

Incidentally I am figuring to Leave The Loomed Mfg Co. as our work has now assumed the routine of kelp fertilizer and I prefer a little more actue work than simply tabulation.

My wife joins me in regards to Mrs Crandall.
please reply to Summerland.

Sincerely
Edw J Fortescue

La Jolla Cal.

La Jolla, Cal.

Apr. 19th 1918

My dear Porteous:

Your letter of the 11th is at hand. It is delayedin reaching me onaccount of my being everywhere except in my office in recent weeks.

There are eight concerns harvesting kelp by automatic harvestors

There are about eight handpicking concerns at present.

The total investment in the industry runs between 5 and 6 million.

400 000 wet tons harvested in 1917.

Harvestors at work at present thirteen.

7 1/2 tons per acre per harvest. Practically 1 1/2 o/o potash in wet kelp.

Keep me advised as to what you are up to and I hope that you get something that looks good to you. You are as well acq uainted with conditions as I am so that you know the kinks and pitfalls of the kelp game.

With best regards to you and Mrs. Porteous from Mrs. Crandall and myself, I am

Sincerely yours

La Jolla, California.
April 29, 1918.

Chief, Bureau of Soils,
Washington, D. C.

Dear Sir:

This is to give you the latest news relative to the kelp district along the coast of Southern California.

Harvester No. 3 of Swift and Company took fire on Tuesday afternoon last and the main portion of the barge was burnt. The only portion which was saved worth mentioning was the harvesting apparatus. The fire was due to back-firing from the main engines. This is the harvester which was used usually off Point Loma to keep the channel clear for steamers and brought in as a rule, 50 to 75 tons of kelp per day. Swift and Company was also unfortunate in that their large barge, Point Loma, was in the recent storm at Clementi and lost one of her rudders, so that at the present time, it is only manageable with difficulty with the one remaining rudder, Swift and Company being now dependent on kelp which is gathered by hand pickers in Bed No. 2, and that which is brought by the disabled Point Loma. Swift and Company seems to have been more unfortunate than any of the other companies in so far as their marine equipment is concerned.

Hercules Powder Company has had its first unfortunate marine accident, the Dunsbus, one of their largest harvesters, went on the rocks at China Point, Clementi and they will be very fortunate if they are able to get their harvester off the rocks. If the sea remains quiet for two or three days longer, they may be able to float her. Her location is an exposed one and the swells are very heavy in that district.

The kelp has grown sufficiently in the so-called San Diego section so that it has been necess

for the San Diego companies to go further than Clemenit Island, thus leaving St. Nicholas Island for the summer.

In San Pedro the companies were able to get a very fair cut from White Point bed this last month, and I hope to be able to Santa Barbara Island apportioned to them and to take this island out of the San Diego section so that the three beds which are now being rotated between San Pedro and Redonda may have a fourth bed, so that there will be no necessity for harvesting the kelp more than three times a year. I am satisfied that the harvesting situation as we have it developed in San Diego is the largest ever for such harvesting on normal conditions in this region. The last year has given us a opportunity for study on the subject of comparing a three month rotation and a four month rotation, and the quantity of kelp rebuilding from the latter condition shows it to be the more logical method of harvesting. Other than this, conditions things are quite normal at San Pedro.

The Lorned Manufacturing Company's boat, Mayflower, which went ashore during the storm in the winter, has been floated and is now ready for service again. The former California Chemical Company had not found a boat to replace the boat Chetko at the last report, but they were negotiating with the Sea Products company for one of their boats. The present situation along the coast seems to be one of stability as far as companies are concerned, and I think we will be able to use with the increase of equipment practically all of the kelp from Point Conception to Santa Barbara during the summer and early fall. I anticipate that there will be probably 600 wet tons of kelp harvested during the year 1918.

You will be interest to know that Hercules Powder Company will ship a ton of iodine soon, and that they have an immense quantity standing in solution and in mother liquors, which they hope to be producing soon.

Sincerely yours,

WCC/Lw

Collaborator

Golden Hill,
Indianapolis, Ind.

April 29, 1918.

Department of Agriculture,

Washington, D. C.

Gentlemen:

Will you be so kind as to advise me if you can supply me with, or advise me how I can be supplied with, a small amount of the spores of the giant kelp which grows wild along the Pacific Coast. I desire to conduct some experiments with this plant with regard to its relationship to potash, I would also be pleased to hear from you in regard to whether you have any Government publications on this subject which might prove of interest to me with reference to the matter.

Thanking you in advance, I am

Very truly yours,

(Signed) Addison J. Parry.

Cotton Mill,
Indianapolis, Ind.

April 29, 1918.

Department of Agriculture,

Washington, D. C.

Gentlemen:

Will you be so kind as to advise me if you can supply me with, or advise me how I can be supplied with, a small amount of the spores of the giant kelp which grows wild along the Pacific Coast. I desire to conduct some experiments with this plant with regard to its relationship to potash. I would also be pleased to hear from you in regard to whether you have any Government publications on this subject which might prove of interest to me with reference to the matter.

Thanking you in advance, I am

Very truly yours,

(Signed) Addison J. Perry.

May 10th 1918

Mr.H.B.Midever,

Long Beach Cal.

My dear Midever:

The San Diego Companies have not made use of Santa Barbara Island this time and I have told them that I would request you to make an order for the San Pedro Companies to use the Santa Barbara Island Kelp Beds between the 20th of May and the 1st of June. This to be the ruling for this cut only. Will you kindly give the official notice to all companies to this effect so that all may be advised. Next Fall I hope that we can make a rotation so that the an Pedro Companies may use this bed for a four months period in cutting. However we had better wait and see how things go.

Sincerely yours

W.O.Crandall

U. S. DEPARTMENT OF AGRICULTURE
Bureau of Soils

May 11, 1918.

Mr. Addison J. Parry,

Golden Hill,

Indianapolis, Indiana.

Dear Sir:

Your letter of recent date, addressed to the Department of Agriculture, has been referred to this Bureau for attention.

We are referring your letter to Capt. W. C. Crandall of the Scripps Biological Institute who is one of our representatives on the Pacific Coast, with the request that he be of assistance to you in this connection if possible

Very truly yours,

Chief of Bureau.

U. S. DEPARTMENT OF AGRICULTURE
Bureau of Soils

May 11, 1918.

Mr. Addison J. Perry,
Golden Hill,
Indianapolis, Indiana.

Dear Sir:

Your letter of recent date, addressed to the Department of Agriculture, has been referred to this Bureau for attention.

We are referring your letter to Capt. W. C. Crandall of the Scripps Biological Institute who is one of our representatives on the Pacific Coast, with the request that he be of assistance to you in this connection if possible

Very truly yours,

Chief of Bureau.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

CCF-PMH

INVESTIGATION OF FERTILIZER RESOURCES.

May 11, 1918.

Capt. W. C. Crandall,
Scripps Institution for Biological Research,
La Jolla, California.

Dear Sir:

I am inclosing herewith a copy of a letter received from Mr. A. J. Parry, Indianapolis, Indiana, together with a copy of our reply, for your attention.

Very truly yours,

Milton J. Dietz

Chief of Bureau.

Inclosures.

CCP-IMH

May 14, 1918.

Dr. Irving M. Fox,

Appointment Clerk,

Dear Mr. Fox:

I am returning herewith Civil Service certificate

for your attention.

Very truly yours,

Chief of Bureau.

Enclosure.

AEB

Bureau Soils

May 15, 1918.

Mr. W. C. Crandall,
La Jolla, California.

My dear Captain Crandall:

I take great pleasure in introducing to you Honorable Paster Rouaix, Secretary of Agriculture and Interior of the Republic of Mexico, who has under his jurisdiction the fisheries of his country and who desires to gain an acquaintance with our own. The Bureau of Fisheries is solicitous that Mr. Rouaix should be given every opportunity to observe the fishery and canning operations conducted in southern California, and will greatly appreciate any attention and assistance which you may be able to extend.to him. May I bespeak for him your kind offices, for which I shall be particularly grateful?

Yours very sincerely,

Acting Commissioner.

AMS

May 15, 1918.

Mr. W. C. Crandall,
La Jolla, California.

My dear Captain Crandall:

I take great pleasure in introducing to you Honorable Pastor Rousix, Secretary of Agriculture and Interior of the Republic of Mexico, who has under his jurisdiction the fisheries of his country and who desires to gain an acquaintance with our own. The Bureau of Fisheries is solicitous that Mr. Rousix should be given every opportunity to observe the fishery and canning operations conducted in southern California, and will greatly appreciate any attention and assistance which you may be able to extend to him. May I beespeak for him your kind offices, for which I shall be particularly grateful?

Yours very sincerely,

Acting Commissioner.

AEB

DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
WASHINGTON

ADDRESS ALL COMMUNICATIONS TO
COMMISSIONER OF FISHERIES
WASHINGTON, D. C.

May 15, 1918.

Mr. W. C. Crandall,
La Jolla, California.

My dear Captain Crandall:

I take great pleasure in introducing to you Honorable Paster Rouaix, Secretary of Agriculture and Interior of the Republic of Mexico, who has under his jurisdiction the fisheries of his country and who desires to gain an acquaintance with our own. The Bureau of Fisheries is solicitous that Mr. Rouaix should be given every opportunity to observe the fishery and canning operations conducted in southern California, and will greatly appreciate any attention and assistance which you may be able to extend to him. May I bespeak for him your kind offices, for which I shall be particularly grateful?

Yours very sincerely,

H. F. Moore

Acting Commissioner.

AEB

DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES
WASHINGTON

ADDRESS ALL COMMUNICATIONS TO
COMMISSIONER OF FISHERIES
WASHINGTON, D. C.

May 15, 1918.

Mr. W. C. Crandall,
La Jolla, California.

My dear Captain Crandall:

I am enclosing herewith a copy of a letter introducing to you the Secretary of Agriculture and Interior of Mexico, which I have written at the request of Honorable David F. Houston, Secretary of Agriculture.

Secretary Houston has advised the Bureau that Mr. Rouaix is one of the staunchest and best friends of the United States in Mexico, and for that reason, among others, I am particularly anxious that all possible courtesies should be extended to him. I feel sure that you will do everything possible.

Very truly yours,

H F. Moore

1 enclosure.

Acting Commissioner.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

May 18, 1918.

Captain W. C. Crandall,
Scripps Marine Biological Institute,
La Jolla, Calif.

My Dear Captain:

I have a request from the Fertilizers' Administrator, Washington, to the effect that I supply them with a complete list of kelp-potash producers. I know most of the principal ones, of course, but I am not informed as to the small producers in your neighborhood. I suppose we should have the names of the beach burners provided they are corporations or partnerships. Will you be so kind as to give me as complete a list as you can.

West of Santa Barbara there are three little companies which you may not have on your list, they are as follows:

El Capitan Products Company, H. M. Henning, Prop., Naples, Calif.
El Capitan Potash Company,, Walter Engelke, Prop., Naples, Calif.
and a third company at Rifufio, Calif., under the management of a man by the name of Hemming.

We interviewed these people recently and they seem to be in complete ignorance of kelp regulations and licenses and control of beds. It might be well to put them wise as they may be breaking the law in their operations and especially as the method of harvesting employed by the El Capitan Products Company is very wasteful. To harvest they tow a sort of net behind a boat and slice the kelp loose as they go along, the idea being to catch the severed kelp in the net. The report I have is that a great deal of kelp is not recovered and is floating around and is resulting in a considerable waste.

The Engelke outfit has a little harvester of twenty to thirty tons capacity, and the Hemming outfit is harvesting by means of a long rope, one end fastened to the windless and the other to bundles of kelp which are cut, tied up in bundles and hitched onto the long rope. The series of bundles is then pulled ashore by means of the windless.

We failed to receive your closing order of some date in March. Please send us a copy of the order due about June 1st.

Before June 1st I would suggest that you come up and take a look at the Santa Barbara bed. It is practically exhausted I am told, and we have the feeling that it did not produce anywhere near the quantity of kelp anticipated. You might take advantage of such a visit here to inspect the little companies up the coast and give them instructions as to the law and methods of harvesting.

May I hear from you at an early date relative to the names and addresses of the small-scale operators.

Thanking you in anticipation and with kind personal regards,

Yours very truly,

J W Thurmond

In Charge.

JWT-Kn

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

CCF-PMH

INVESTIGATION OF FERTILIZER RESOURCES.

May 20, 1918.

Capt. W. C. Crandall,
Scripps Institution for Biological Research,
La Jolla, California.

Dear Sir:

We are attaching hereto a copy of a letter received from Mr. E. D. Fleming, Minneapolis, Minnesota, together with a copy of our reply, for your attention.

Very truly yours,

Milton Whitney

Chief of Bureau.

Inclosure.

CCF-PMH

May 20, 1918.

Mr. E. D. Fleming,
235 Plymouth Building,
Minneapolis, Minnesota.

Dear Sir:

Your letter of recent date, has been received.

We are attaching hereto a copy of our only publication which contains a section on kelp and are referring your letter to the Superintendent of our plant at Summerland, California, and to our other representative on the Pacific coast, Capt. W. C. Crandall of the Scripps Biological Institute, with the request that they give you any information they may have.

Very truly yours,

Chief of Bureau.

Inclosure.

CCB-HMH

May 20, 1918.

Mr. E. D. Fleming,
238 Plymouth Building,
Minneapolis, Minnesota.

Dear Sir:

Your letter of recent date, has been received.

We are attaching hereto a copy of our only publication which contains a section on kelp and are referring your letter to the Superintendent of our plant at Summerland, California, and to our other representative on the Pacific coast, Capt. W. C. Crandall of the Scripps Biological Institute, with the request that they give you any information they may have.

Very truly yours,

Chief of Bureau.

Inclosure.

C OPY

May 9, 1918.

Department of Agriculture,
Bureau of Fertilizer,
Washington, D. C.

Gentlemen:

I would like to have your latest bulletins on the subject of sea kelp as a fertilizer, the most improved method of reduction for shipment, cost of production and the experience of your Government Plant at San Diego.

I am interested in a kelp products company near Smith Island, Washington, which company will begin shipping this month.

The statements of the officers of the company as to the profits in marketing do not seem possible to me and do not agree with the author of an article in Worlds Work for May.

I shall feel indebted to your Bureau for any information you may forward to me.

Respectfully yours,

(Signed) E. D. Fleming,

235 Plymouth Bldg.,
Minneapolis, Minn.

COPY

May 9, 1918.

Department of Agriculture,
Bureau of Fertilizer,
Washington, D. C.

Gentlemen:

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I am interested in a kelp products company near Smith Island, Washington, which company will begin shipping this month.

The statements of the officers of the company as to the profits in marketing do not seem possible to me and do not agree with the author of an article in Worlds Work for May.

I shall feel indebted to your Bureau for any information you may forward to me.

Respectfully Yours,

(Signed) E. D. Fleming,

235 Plymouth Bldg.,
Minneapolis, Minn.

May 22 1918

Dr.J.W.Turrentine,

Summerland,Cal.

My dear Turrentine:

The following handburners are located in and about San Diego.

		Capacity
M.Hamada	Roseville	2 tons daily
Chas.Lake	Roseville	2 tons daily
Frank L.Monte	Roseville	1 tons daily
--- Toevs	Chula Vista	2 tons daily
McDonald	Clemente	? small

One small company atnWhite's Point.

Companies at Long Beach and Wilmington and San Diego.

Diamond Match	Wilmington.
Sea Products	Long Beach.
Pacific Products	Long Beach
Swifts Kelp Works	San Diego.
Hercules Powder Co.,	Chula Vista.

Yours sincerely

W Clendale

548 State St,
Brooklyn, N.Y.
May 27/18

Scripps Biological Inst.
La Jolla, Cal'a.

Gentlemen:- Mr. J.L. Burd of the Agricultural Experiment Station of your State suggested that you might be able to get for me what I am seeking.

I would like two or three pounds, dry weight, of the so called Alginic acid (gum from the giant kelps). I will take this in the shape it is precipitated from the alkaline solvent & the free water drained out.

I realize that this is a bulky material & holds a high percent of water but could be shipped in a can.

If you can procure this kindly let me hear from you, also the cost.

Very truly yours,
A. L. Kennedy

Brandt.

Kindly note

& report.

Randall

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

INVESTIGATION OF FERTILIZER RESOURCES.

La Jolla, Cal.
May 27th 1918.

Chief, Bureau of Soils,
Washington, D.C.

Dear Sir:

Last Wednesday I went to Long Beach and looked into the kelp situation there in detail. I found that the following conditions exist:

From information gathered from Mr. Bawder, State Fish and Game Commission I find that there are three handpickers working above Santa Barbara.

In San Pedro and Wilmington harbors I found the Mayflower of Lorned Manufacturing Co. tied up and out of commission at Banning wharf and also found that Mr. Thompson is trying to dispose of her to a fish company.

On Thursday the 23rd. the Albion steamed out of San Pedro harbor on its way to Summerland. The Albion has been laid up for almost a month with a stripped tail shaft. As a result Lorned's have been closed up for practically that length of time.

Mr. Bawder saw a deputy sheriff at the Occidental Chemical plant at Summerland. This was the former Calif ornia Chemical Co.

It seemed unwise to go further in the kelp investigations about Summerland when I found out practically everything that I could in San Pedro and Long Beach. A little later I hope to take a boat trip to view the kelp that is reported to be very heavy above Santa Barbara.

At Long Beach I found that the Pac. Products Co. had the Paprooo on the ways overhauling and putting in new engines. They are now off and in operation.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

INVESTIGATION OF FERTILIZER RESOURCES. #2.

Sea Products were working but rather short on kelp.

Diamond Match Co. working on short kelp allowance. June will put these companies in a good bed at Redondo again.

Swift Co. #3 way on the Fellows Ways at Wilmington being rebuilt after the fire. It will take some three months to put her in shape again.

Swift's Point Loma went on the drydock at Long Beach to put on a new rudder as one had been lost. Because of a lack of rudder the last harvesting by this harvestor was very wasteful in the La Jolla beds.

Hercules' Bacchus is being overhauled and replanked on account of being on the rocks at Clemente Is.

Thus it so happens that nearly all the equipment in the kelp harvesting has been at Long Beadh or Wilmington during the month of May.

Last Friday the Joplin of hercules Co. broke an engine and was taken back to San Diego. I have not heard today whether the break was serious or not. This leaves only the small Kenvil at work.

At San Diego there are four handburners at work. Three are at Point Loma and one at Chula Vista.

There is also one handpicker reported at Clemente Is. This group of men will fish albacore during the season however and so will only partially count.

General Summary at present is that on account of loss of equi pment little work has been done comparatively during May.

Yours truly

C ollablr

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

May 28, 1918.

Mr. W. C. Crandall,
Scripps Marine Station,
La Jolla, Calif.

Dear Crandall:

I have a request from Mr. E. A. Goldenweiser, Statistician, U. S. Department of Agriculture, for a list of producers and potential producers of fertilizer materials or materials capable of use as fertilizers in the state of California, and am writing to you to ask if you will supply him directly with such a list of the tuna canneries of Southern California and any concerns manufacturing fertilizer or fish meal from the waste of tuna or other canneries. Can you also supply a list from the Monterey and Sacramento districts? I am assuming that you have all of this information before you and that you can comply with this request without undue personal inconvenience. I trust you can comply and thank you in anticipation for your accommodation. ¶I take this occasion to thank you for your favors of the 19th and 22d conveying information requested.

Yours very truly,

J W Turrentine

In Charge.

JWT°Kn

UNITED STATES FOOD ADMINISTRATION
W. C. CRANDALL
FEDERAL FISH COMMISSIONER FOR
SOUTHERN CALIFORNIA

ADDRESS REPLY TO

La Jolla, Cal.,
May 29th, 1918.

Attention Fishermen and Kelp Harvester Men -

On and after June First Kelp Harvesters will be working north from La Jolla to Laguna.

Men on the Harvesters are hereby notified to exercise care whenever a net is seen in any kelp bed.

Fishermen should be on the lookout for Kelp Harvesters and remove their nets from a bed in which the Kelp Harvesters are working.

Nets are used for obtaining food and kelp is used for obtaining fertilizer and munitions. Both are necessities of war and the active co-operation of fishermen and kelp harvester men is asked that the greatest quantity of each may be produced.

W C Crandall

Federal Fish Administrator
Southern California.

WCC/M

La Jolla, California,
May Twenty-ninth,
1918.

Paul Petrich,
Coronado Fish Company,
San Diego, California.

Dear Sir:-

Enclosed you will find a notice relative to both Fishermen and Kelp Harvester Men.

Will you kindly post this notice in such a way that it will be brought to the attention of as many men as possible.

Thanking you in advance, I beg to remain

Very truly yours,

W C Crandall

Federal Fish Administrator,
Southern California.

WCC/M

La Jolla, California,
May Twenty-ninth,
1918.

W. H. Hall,
American Union Fish Co.,
San Diego, California.

Dear Sir:

Enclosed you will find a notice relative to both Fishermen and Kelp Harvester Men.

Will you kindly post this notice in such a way that it will brought to the attention of as many men as possible.

Thanking you in advance, I beg to remain

Very truly yours,

W C Crandall

Federal Fish Administrator
Southern California.

WCC/M

La Jolla, California,
May, Thirty-first,
1918.

Mr. E. A. Goldenweiser,
Statistician, U.S. Bureau of Agriculture,
Washington, D. C.

Dear Sir :-

At the request of Dr. G. W. Turrentine I am sending a list of producers and potential producers of fertilizing material with which I am acquainted in Southern California.

SAN DIEGO, CALIFORNIA.

Southern Reduction Company, D.E. Crouch, Manager.	Fertilizer and Fish Meal
International Packing Co. H. A. Kohn, Manager.	Fishmeal and oil.
H. Hovven Inc., ... Hovven, Manager	Fishmeal and oil.

LONG BEACH, CALIFORNIA.

Los Angeles Tuna Canning Co., W. E. Pridett, Manager.	Fishmeal and oil.
West Coast Packing Co., T. Tveot, Manager.	Fishmeal and oil.
South Canning Company, M.J. Kuglis, Manager.	Fishmeal and oil.

SAN PEDRO, CALIFORNIA.

Van Camp Sea Food Company, Frank Van Camp, Manager.	Fishmeal and oil.

EAST SAN PEDRO, CALIFORNIA.

Globe Oil Mills, N. J. Skinner, Manager.	Fertilizer, fishmeal and oil.
Evich & Kittle Co., Manager unknown.	Fishmeal and oil.
Southern California Fish Co., W. I.	Fishmeal and oil.

EAST SAN PEDRO, CALIFORNIA. Cont.-

Spanno Packing Company, A.L. Canan, Manager.	Fishmeal and oil.
White Star Tuna Pack. Co., W. C. King, Manager.	Fishmeal and oil.
International Packing Co., W. F. Wood, Manager.	Fishmeal and oil.

These companies will handle the fertilizer, fishmeal and oil from the offal, from the fresh fish markets, sardine and tuna canneries and the condemned fish from the same sources.

I am unable to state the amount of fertilizer, fishmeal and oil we shall produce but we shall probably pack 600,000 cases one-half pound tuna using 15,000 tons of fish; also about 2,000,000 cases of sardines where the waste is probably 50%. I can not give a basis for estimate on fresh fish as it comes in in such a variety of ways.

Trusting that this may give you the information desired, I am

Very sincerely yours,

WCC/M

Collaborator.

La Jolla, California,
May Thirty-first,
1918.

E. D. Fleming,
235 Plymouth Bldg.,
Minneapolis, Minn.

Dear Sir:-

Your letter of recent date, has been referred to me by the Bureau of Soils.

I suspect that the Company to which you make reference is operating on Nereocystis luetkeana or bull kelp. I am not familiar with the production costs of this type of giant kelp. For figures on Macrocyscis pyrifera I think you will get your exact information from Dr. J. W. Turrentine, Federal Potash Investigations Laboratory, Summerland, California.

Very truly yours,

WCC/M

Collaborator.

La Jolla, California,
May, Thirty-first,
1918.

Mr. Addison J. Parry,
Golden Hill,
Indianapolis, Indiana.

Dear Sir:-

Your letter of recent date, addressed to the Dept. of Agriculture, has been referred to me for attention.

Will you kindly advise me of the quantity of spores of the giant kelp which you desire; also which one of the giant kelps. For general information concerning the giant kelps I refer you to Dr. R. T. Brandt, Scripps Institution, La Jolla, California for detailed information.

Very truly yours,

WCC/M

Collabrator.

DEPARTMENT OF AGRICULTURE
WASHINGTON

June 6, 1918.

Mr. W. C. Crandall,
Collaborator, Bureau of Soils,
La Jolla, California.

Dear Sir:

I thank you for the list of producers of fish meal in southern California, which you were good enough to send me.

I wonder whether you could procure for me, or refer me to the proper party to give us a list for the northern Pacific Coast and for Alaska?

Very truly yours,

E. A. Goldenweiser

E. A. Goldenweiser,
Statistician.

EAG-F

U. S. DEPARTMENT OF AGRICULTURE
Bureau of Soils

C O P Y

Olympia, Washington.
June 6, 1918.

Milton Whitney,
Chief, Bureau of Soils,
Washington, D. C.

Dear Sir:

Thanking you for your kind favor with inclosure of May 24. Am very desirous of obtaining further information relative to kelp and shall avail myself of your very kind offer to take up with me this subject. Would like very much to know of some practical method to dis till kelp and how a retort should be constructed also information as how best potash may be leached from the burnt kelp ash. Any information you may extend to me I shall feel very grateful to you for the same or of any publication that you may know of regarding these matters.

Thanking you again, I remain

Respectfully,

(Signed) Frank H. Peters.

Olympic Hotel.

U. S. DEPARTMENT OF AGRICULTURE
Bureau of Soils

COPY

Olympia, Washington.
June 6, 1918.

Milton Whitney,
Chief, Bureau of Soils,
Washington, D. C.

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Thanking you again, I remain

Respectfully,

(Signed) Frank H. Peters.

Olympia Hotel.

LINDSAY & REDDEN
LAWYERS
204-5-6 KUPPLER BUILDING
PORT ANGELES, WASHINGTON

J. W. LINDSAY
JAMES W. REDDEN

June 17, 1918.

Prof. W. C. Crandall,
La Jolla, Calif.

Dear Sir:

I am just in receipt of a letter from Mr. Sterns, Chairman of the Trade Commerce and Manufacturing Bureau of the San Diego Chamber of Commerce stating that you could give considerable information in connection with the kelp industry. I was formerly Secretary of the San Diego Chamber of Commerce and lived in that city for several years. We are contemplating the construction of a kelp plant here and desirous of getting all the information possible. If you are particularly interested in kelp products it might pay you well to make a trip to our city a little later on and become interested with us. We have a great deal of kelp along the Straits of Juan de Fuca which needs development by someone who knows the way to handle it.

Thanking you for writing me, I am

Yours truly,

J. W. Lindsay

L/S

June 20, 1918.

Mr. E. A. Goldenweiser,

Statistician, Dept. of Agriculture,

Washington, D.C.

Dear Sir:

I am sorry I am not acquainted with the situation in the North, but refer you to the Editor of the PACIFIC FISHERMAN, Seattle, Wash., who, I think, would probably be able to put you in touch with the right man for the situation you wish.

Yours sincerely,

Collaborator.

CCF-PMH

June 21, 1918.

Mr. Frank H. Peters,
Olympic Hotel,
Olympic, Washington.

Dear Sir:

Your letter of recent date, has been received.

We are forwarding a copy of your letter to our representatives on the Pacific coast, Dr. J. W. Turrentine, Summerland, California, and Captain W. C. Crandall, Scripps Biological Institute, La Jolla, California, with request that they give you the latest information along this line which is at their disposal.

Very truly yours,

Chief of Bureau.

CCP-PMH

June 21, 1918.

Mr. Frank H. Peters,
Olympic Hotel,
Olympic, Washington.

Dear Sir:

Your letter of recent date, has been received.

We are forwarding a copy of your letter to our representatives on the Pacific coast, Dr. J. W. Turrentine, Summerland, California, and Captain W. C. Crandall, Scripps Biological Institute, La Jolla, California, with request that they give you the latest information along this line which is at their disposal.

Very truly yours,

Chief of Bureau.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

CCF-PMH

INVESTIGATION OF FERTILIZER RESOURCES.

June 21, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Sir:

Attached hereto is a copy of a letter received from Mr. Frank H. Peters, Olympia, Washington, together with a copy of our reply, for your information.

Very truly yours,

Milton J. Dietrich

Chief of Bureau.

Inclosures.

HER. 355

ALL QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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MANUFACTURERS OF EXPLOSIVES

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BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

San Diego, Cal.,
June 28, 1918.

Captain W. C. Crandall,
Scripps Institution for
Biological Research,
La Jolla, California.

Dear Sir:

We are in receipt of a letter from Mr. H. B. Nidever of the Fish and Game Commission, authorizing the operation of the Point Loma bed from the Wireless Station south until July 10.

He mentions in his letter that on the recommendation and request of Captain Watson of Swift & Company and also in consideration of the fact that our harvester is in no condition at this time to make a trip to the Islands, this extension was made.

We appreciate very much your interest in our behalf and assure you that it is a big help to us just at this time, as the "Bacchus" has been out of commission for some time and our other two harvesters have not been able to keep up with our requirements at the plant.

Very truly yours,

HERCULES POWDER COMPANY,

Per J. T. Barfield.

HTB-MFD

Superintendent.

1M64K1

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING

Circuit Court, Second Circuit

TERRITORY OF HAWAII

LESLIE L. BURR
JUDGE

T. B. LINTON
CLERK

WAILUKU, MAUI, HAWAII,

June 29, 1918.

Biological Station,
La Jolle,
Cal.

Gentlemen:

Have you any pamphlets or data for sale or distribution on the subject of kelp growing off the Southern California coast? Certain parties here have evinced an interest in kelp, and the question has arisen whether it would grow in the waters of the coasts of the Hawaiian islands, and also whether it would be of any benefit to the islands should it be possible to propagate kelp. Also, that in the event you have any literature on the matter that can be obtained, would you briefly state a few facts concerning kelp: its means of propagation, length of life, temperature of the water in which it will grow, and whether it would be possible to transplant some of the kelp from Southern California in the waters of these islands.

Very truly yours,

L. L. Burr,
Per PMcM.

June 29, 1918

Chief of the Bureau of Soils,

Washington, D.C.

Dear Sir:

On Saturday, Sunday and Monday, June 15, 16 and 17, I made a survey of the Kelp beds from San Pedro to Gaviota; thence across to Santa Rosa and Santa Cruz Islands; down to Santa Barbara and thence in to San Pedro. I had just observed all the beds from San Diego to San Pedro by auto and had received recent reports from San Nicolas and San Clemente Islands. All beds between San Diego and San Juan Point have been recently cut, and are growing well at the present time, but cannot be cut for a period of two months again. The San Pedro bed shows very poorly; White's Point bed, No. 12, is in very good shape; Redondo bed, No. 13, is being but this month, and an excellent tonnage is being ontained. Santa Monica and Point Dume beds are in very poor shape and will need at least two months rest. Pt. Dume, Gorda and Pt. Rincon beds are in good shape. The bed at Carpinteria is fair; the bed at Summerland, Federal bed No. 21, is attaining a fair appearance. Santa Barbara bed has been recently been cut and will need some three months rest. The beds about Santa Barbara to Naples are in good shape and all the beds west of Naples towards Point Conception are in excellent condition. The beds about Santa Rosa and Santa Cruz Islands, as well Santa Barbara Island, are in good shape, and San Nicolas in excellent shape. San Clemente needs about six weeks rest.

This will give you a general idea of the Kelp bed situation at this time.

Very sincerely yours,

Collaborator.

La Jolla, Calif.,
July 18, 1918.

Mr. L. L. Burr,

Circuit Court, Second Circuit, Territory of Hawaii,

Wailuku, Maui, Haw.

Dear Sir:

Relative to your letter of June 29th, I will state that we have no pamphlets for distribution on the subject of kelp. What has been written on kelp has been published by the Bureau of Soils, Washington, D.C., namely: Senate Documents Nos. 190 and 912, and Report No. 100, 1915. I enclose herewith, however, an article: The size of Kelps on the Pacific Coast", by myself and others, which may help. There is also an article by Stottsburg on the "Kelp of the South Pacific", which takes up the morphology and development.

Answering your immediate questions I will state that the kelp propagates by means of spores; that the Macrocystis pyrifera lives for many years, the temperature range is from 5° to 15° Cent., that it lives on rather exposed coasts or open roadsteads and forms an excellent barrier along the coast line, and is of much value commercially in Southern California at the present time.

Yours sincerely,

W. R. HADDOCK
MEMBER NATIONAL SHORTHAND REPORTERS' ASSOCIATION
COURT REPORTER
SOUTH BEND, WASHINGTON

July 24, 1918.

Dr. J. W. Turrentine,

Summerland, California.

Dear Sir:

As chairman of a committee of the South Bend Commercial Club I am investigating the commercial utilization of the seaweed growing in the waters of Willapa Bay. At the suggestion of the U. S. Bureau of Soils I am writing you.

I enclose herewith an analysis of the ash of this seaweed made at the University of Washington. I would roughly estimate the area producing this seaweed,or seagrass, more properly speaking, at ten thousand acres although one old resident on the shore of the bay who is interested in the development of this resource estimates the producing area at five times that extent. I would say that the conditions for harvesting and handling the seagrass are very favorable. The same old settler above referred to estimates the production of this grass at from five to ten tons of green grass per acre per season, and he suggests as a method of harvesting, the dragging of a knife or cutting edge along the bottom of the shallow bay and the collection of the grass from the surface of the water and transportation of it by barge to the location of a plant for the drying and burning of the grass.

We are particularly interested in knowing, first, whether or not this grass is sufficiently rich in potash and is found in sufficient quantities to render its commercial exploitation practical and profitable. In the second place we would much appreciate such information as may be available in regard to the method of handling this seaweed commercially, that is, the method of harvesting and the

W. R. HADDOCK
MEMBER NATIONAL SHORTHAND REPORTERS' ASSOCIATION
COURT REPORTER
SOUTH BEND, WASHINGTON

process whereby the potash is obtained.

In view of the urgent necessity for large supplies of potash we are, aside from any selfish interest in the industry, very anxious to see this apparently large source of supply developed if it be practicable. If available, we would be glad to have full information in regard to the industry in other sections, such as the area of grass, the production per acre, the percentage of potash yielded, the cost of production, the manner of marketing, the market price, etc.; also whether or not there are any by-products of the industry, and if so, what.

The Bureau of soils has furnished me with a list of companies engaged in the production of potash from seagrass to whom I will write after obtaining the general information requested herein.

I have neglected to make an extra copy of this letter and will be obliged if you will, after action on same, forward the letter to Professor W. C. Crandall, Scripps Institution for Biological Research, La Jolla, California, for such further action as he may be able to take with a view to assisting us in developing this most important industry.

Thanking you in advance for the favor of a prompt reply, I am

Yours very respectfully,

W. R. Haddock

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

August
Tenth,
1918.

Prof. W. C. Crandall,
Scripps Institution,
La Jolla, California.

Dear Crandall:

Enclosed herewith is a letter from Mr. W. R. Haddock of South Bend, Washington, which I am forwarding to you at his request.

Yours very sincerely,

J W Turrentine

JWT-S
Enc.

P.S.
How is the Stingaree bite?
JWT.

La Jolla

La Jolla, Cal.

Aug 23rd 1918

W.R:Haddock,

South Bend, Washington,

Dear Sir:

Your letter of the 24th at hand. Iam not acquainted with the grass you refer to in your letter but I suspect that it is the Eel grass that grows so abundantly along this coast. Relative to the potash content I am unable to enlighten you at all. Relative to the method of cutting a knife dragged on the bottom would possibly drag the plants out and take away the chance of catching the seeds for the next seasons crop while something after the lines of the kelp harvestors with their reciprocating knives would cut the grass off and leave the roots intact. This is merely a suggestion upon my part but I believe the same thing has been done to some extent along the Deleware and Potomac on the East Coast.

Dr. Frye, Univ. of Washington or Dr Rigg would be best able to advise you concerning the grasses and cutting of the same along your coast.

Yours truly

W. C. Crandall

Business Manager.

M. A. ESTEVA

MANUEL ALVAREZ

CABLE ADDRESS: ESTEVARUIZ

TELEPHONE {3492 3493 3494} BROAD

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IMPORTERS AND EXPORTERS

10-12 Broadway

NEW YORK Sept. 3, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
LaJolla, California.

Dear Sir:-

The Chief of Bureau of Soils, U. S. Department of Agriculture has been kind enough to refer us to you.

We hold an option on a concession for Kelp, of which we enclose a translated extract for your kind and discretional perusal. It is at present next to impossible for various reasons, one of them the difficulty of obtaining machinery on account of the scarcity of steel, to put up a plant inside the Mexican Republic. Therefore, it will be necessary to ship the kelp in as dry a state as natural processes will allow to some existing plant of California, U.S.A.

We should be very much obliged to have your valuable advice which on the basis of your studies and experience alone show us the practical way to obtain results, and which we cannot obtain in any other way.

Anticipating our sincere thanks for any information you may give us, we beg to remain,

Yours very truly,

ESTEVA-RUIZ & CO.

por

H.C.O/K.J.R.

Esteva-Ruiz & Co.,

New York, N.Y.

Dea Sirs:

The following companies are buying dried kelp at the present time:

Swift Kelp Works	San Diego, Cal.
Sea Products Company	L ng Beach Cal.
Diamond Match Co.	Wilmington. Cal.
Lorned Manufacturing Co.	Santa Barbara Cal.

The are some fertilizer companies from outside markets that also buy up the dried kelp.

Yours truly

Collaborator.

COPY

July 31, 1918.

U. S. Food Administration,
Washington, D. C.

Gentlemen:

An inquiry has come in to us from the Matsuoki Sea Food Company of Los Angeles, Cal., concerning an electric process for b bleaching kelp and other sea-plants to make them suitable for food. Such a process they say, is said to be used in Japan, but they have no detailed information about it and know of no one to whom they can apply.

My indices here show no references bearing upon the subject, and I wonder if you have any sources at hand to supply any information. We shall be glad of any help.

Very truly yours,

(Sgnd) A.Walker,
Research Librarian.

Address:-

Research Library,
General Electric Co.,
Schenedtady, N. Y.

COPY

July 31, 1918.

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(Sgnd) A.Walker,
Research Librarian.

Address:-

Research Library,
General Electric Co.,
Schenectady, N. Y.

CCF-PMH

September 6, 1918.

Mr. A. Walker,
Research Library,
General Electric Co.,
Schenedtady, New York.

Dear Sir:

Your letter of recent date, addressed to the U. S. Food Administration, has been referred to this Bureau for attention.

We have no knowledge of the process mentioned in your letter for bleaching kelp and making it suitable for food, but are referring your letter to Dr. J. W. Turrentine, Superintendent of our kelp plant, Summerland, California, and our other representative on the Pacific Coast, Captain W. C. Crandall, Scripps Biological Institute, La Jolla, California, who aredealing directly with kelp, with the request that they give you any information along this line which is in their possession.

Very truly yours,

Chief of Bureau.

CCE-PMM

September 6, 1918.

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Research Library,
General Electric Co.,
Schenectady, New York.

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Very truly yours,

Chief of Bureau.

CCF-PMH

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

September 6, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Sir:

We are attaching hereto a copy of a letter from Mr. A. Walker, Schenedtady, New York, together with a copy of our reply for your attention.

Very truly yours,

Frederick V. Brown.

Chief of Bureau.

Inclosures.

B

September six,
1 9 1 8.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

September ten,
1 9 1 8.

Memorandum to Employees:

In accordance with the Proclamation of the President all men between the ages of 18 and 45 years, both inclusive, with the exception of those already registered and those now in the military service, are required to register with their local boards September 12th, next.

In order that the draft records of the Department may be as complete as possible you are requested to furnish the following information:

1. Order Number
2. Serial Number
3. Date of birth
4. Place where registered
5. Address of your Local Board
6. Classification given by Board
7. Reasons for deferred classification

It is realized that you will be unable to advise as to your Order or Serial number for some time, as well of course as the classification you will receive. However the balance of the information required can be furnished at once and you should see that the remainder is supplied this office as quickly as possible. In answering No. 7 confine yourself to personal reasons, such as dependency, etc.

A. G. Rice.

Chief Clerk.

9-3-18

Mr. C. A. Higgins,
Hercules Powder Company,
Wilmington, Delaware.

My dear Mr. Higgins:-

Mr. Bonfield has shown me your telegram in which you asked for some small data as to the operations of this plant. There is very little that we can add to the data that your company already possesses. The two methods of handling the kelp differs to some extent even to the harvesting. As you are aware we do not macerate the kelp on any of our boats, one boat shredding the kelp only and the other boat cutting the long kelp which is shredded at the plant. After being shredded the kelp is conveyed from the dock to the macerator through which it passes directly before entering the dryers. The dryers are direct fired, the kelp entering at about 90% moisture and leaving the dryers at about 5% moisture, passing direct to the grinder house where it is ground and shipped. Further research work and experiments being conducted at our laboratory in Chicago.

We are enclosing what may be of interest to you. Certain data covering the range of K-2-O and ammonia content throughout a range of two years. The data is as near accurate as it is possible to secure under the circumstances. As each car of kelp is shipped from this plant there is a record kept and analysis made

of each car and the chart covers the range of analysis throughout the period of two years as above stated. We are rather disappointed at the falling off in content throughout the second year, however, it may be due to several causes which occur only at frequent intervals. The present year has been one of abnormal weather conditions which naturally has effected the kelp to a great extent. First it was the heavy winds continually prevailing which had a tendency to tear a great deal of the kelp loose from the holdfast and at the same time only partially destroying the other plants which permitted it to leach out to a certain extent and naturally reduce the content. We find that the best kelp is found in those locations having the strongest current which naturally gives them a greater exchange of water from which the plant derives its content. Naturally such beds are located well off-shore and are not subject to abnormal surface temperatures of water. There is fully 20% of the plant floating on the surface which is subject to a temperature of from 5 to 10% above normal during a continued hot spell and fine weather. This increase in surface temperature seems to be sufficient to start fermentation in the surface kelp which brings about what we have termed "SLUFFING" or the surface kelp rotting away. Naturally this permits the balance of the plant to leach out to a certain extent reducing the content.

We are arranging to continue the gathering of data regarding raw kelp and we feel that at the end of a three year period we should be able to arrive at some very accurate determinations.

With best personalywishes I beg to remain

Yours respectfully,

SWIFT & COMPANY, POTASH WORKS

per

W. C. Crandall.

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San Diego, Calif.,
September 10, 1918.

Capt. W. C. Crandall,
Federal Fish Administrator
for Southern California,
La Jolla, California.

Dear Sir:

We beg to acknowledge receipt of your favor of September 3, enclosing Notice to Fishermen of August 26, 1918, advising that bed No. 1 is being closed due to target practice in this district.

We thank you for your footnote on this letter, and will advise just as soon as it is necessary for us to harvest in this bed. Our present plan is to continue up the coast to the Del Mar beds. In the meantime Captain Morris will investigate Bed No. 1 and if sufficient kelp is available, and it is agreeable to you, he would like to cut this before going farther from home.

We have asked Captain Morris to communicate with you regarding this matter.

Very truly yours,

HERCULES POWDER COMPANY,

H. T. Barfield

HTB-MFD

Superintendent.

SAFETY FIRST—Use Permissible Explosives that do not require thawing

La Jolla, Call

Sept. 16th 1918.

Chief, Bureau of Soils

Washington, D.C.

Dear Sir:

Re: Memorandum concerning Draft Records.

1. ----------

2. ----------

3. Aug. 5th 1878.

4. Local Board for Division #1 City of San Diego.

5. San Diego, Cal. 310 Federal Bldg.

6. ----------

7. Shall ask for no deferred classification.

Have mother and wife.

Yours truly

Collaborator.

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BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

San Diego, Calif.,
September 19, 1918.

Captain W. C. Crandall,
Scripps Institute for
Biological Research,
La Jolla, California.

Dear Sir:

A representative of the Fish and Game Commission, Mr. C. S. Bauder, from the San Pedro office, called the latter part of August, apparently just to learn how we were developing our processes, etc., and at the same time made a request on behalf of Mr. N. B. Scofield of the San Francisco office of the Fish and Game Commission for a few samples of our products for an exhibit of kelp products. Accordingly, we are about to prepare for them an exhibit something similar to the one furnished you, believing that same will be of considerable value to us, if properly displayed and visitors are impressed with the fact that our kelp beds are of superior value to manufacturers whose processes recover all of the chemical constituents of the plant, especially during the war period.

We do not mean to particularly discourage the so-called shore combers, but it is certainly discouraging to have a plant such as the Swift Company's plant maintain harvesters whose operators are inconsiderate of all others and make a single cut through the center of the bed so as to make it extremely difficult to cut a bed clean, as Captain Morris has no doubt explained to you, and you are no doubt also familiar with just how the Swift harvesters attack a bed and the difficulties that we are obliged to put up with under the circumstances.

We believe that you feel as we do that the beds should be cut clean and that they should be approached the same as a harvester would approach a field of grain, cutting from the outside in, and thus clean up everything as the harvester goes along.

It is Captain Morris' estimate that we lost out of the Tia Juana beds at least 500 tons because of the manner in which the Swift harvester made a center cut through this bed.

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING

HER. 374

HERCULES POWDER

This matter has been taken up time and again with Captain Watson by Captain Morris and Mr. Bent. The writer has not personally approached Captain Watson on the subject, but we believe that as heretofore they will make no amends without direct command from your department. Anything that you can do for us in this particular will be highly appreciated.

Very truly yours,

HERCULES POWDER COMPANY,

H. T. Barfield

Superintendent.

HTB-MFD

Copy to
Mr. G. H. Markell,
Treasurer.

Sept.22nd 1918

Hercules Powder Co.,

San Diego,Cal.

Dear Sirs: Attention Mr.Bonfield.

Your letter of the 19th at hhdd. You are only too welcome to come to my office and go through all the notes that Mr.Brandt has turned in on his work on the kelp. It will undoubtedly be some time before we will be ina position to print the same but the preliminary notes are open to you. It would be well to telephone ahead in order that I might be here as these notes are all in my files and others are unacquainted with their location.

Your exhibit in our museum is one of the most important exhibits that we have. It draws a great deal of attention and is a real educational factor. The army and navy people particularly seem to like to stop and look at the exhibit. My only worry is that our curator may say too much and so I have cautioned him against telling the general public anything about the real uses to which the exhibited materials are put. We are ever sure of the general public and what it is here for so we are now trying to stay on the safe side.

That too much kelp is wasted and lost is self evident. Capt,Morris and I went to see Capt Watson some days ago. The only thing that seems possible is to send Watson's harvester into one bed and your harvesters into another as the two do not work well together. His harvester being so long, he claims that he must go straight through a bed and then work down the two sids of the cut. You harvest best by going around the beds. The two methods are absolutely opposite but both when used consistently may be equally good. The trouble as I see the straight method is that

bed is never fully cut and only the center really harvested. The only solution to this then will be for us to pass on the cut beds and give an authorization to pass on to another bed. This problem is a real one and has been up nearly all the time since the harvesting of kelp began. Some day I hope that some one will be able to figure out some form of harvester that will eliminate all these losses of kelp.

After the last harvesting here at La Jolla the local coast was piled high with kelp. If any other than myself had been in charge here there probavly would have been an awful roar about the drift. I really expected to hear the sardine fishermen howl as it spoiled their fishing entirely with nets inshore but they seem to have take n the condition for granted.

The real job before us is to develope a refindd method of harvesting. As it is now each company objects to the method of the other company and really each company can show some facts to prove his own case.

With best wishes, I am

Sincerely yours

M. Clendace

HER. 355

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WILMINGTON, DEL.
MEMPHIS, TENN.

MANUFACTURERS OF EXPLOSIVES

DYNAMITE
GELATIN DYNAMITE
BLASTING GELATIN
PERMISSIBLE POWDERS
BLASTING SUPPLIES
BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

San Diego, Calif.,
September 28, 1918.

Captain W. C. Crandall,
The Scripps Institution
for Biological Research,
La Jolla, California.

Dear Sir:

I thank you for your letter of September 22 and your broad viewpoint regarding the differences that we and other harvesters of kelp have between us, and assure you that it is our desire to co-operate with you all possible in solving the difficulties.

Referring to our exhibit, we are preparing for you a set of descriptive matter which accompanied a similar exhibit to the Chemical Show at New York City, which we believe will set forth this exhibit more clearly to the public and at the same time relieve your mind as to your curator overstepping his bounds and giving information which the company desires to hold secret.

Very truly yours,

H. T. Bonfield

HTB-MFD

Superintendent.

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

INVESTIGATION OF FERTILIZER RESOURCES.

Oct. 1 1918.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Enclosed find statement of an expense account made in getting together some data for the present kelp situation which is rather forbidding at the present time owing to the kelp disappearing after a recent hot spell.

I find that I have not received an 1918 authorization and am sending an expense account on the 1917 authorization as from my talk with Mr. Brown, I am sure was intended in that I was asked to keep in touch with the conditions south of Santa Barbara.

I have been in constant touch with conditions during the entire time since July 1st in various trips that I have made along the Coast but have been doing my observations in connection with other work.

Letter on observations follows taking up the conditions from July 1st to date.

Yours truly

Collaborator.

I find that I am out of blank vouchers, envelopes.

W.C.C.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

Condition of Beds

INVESTIGATION OF FERTILIZER RESOURCES.

La Jolla, Cal. Oct. 1 1918

Chief, Bureau of Soils,

Washington D.C.

Dear Sir:

The kelp situation looks rather bad for the present but this conditi n has prevailed in the previous years and so I do not anticipate that anything more than usual is happening only that this year conditions are even more pronounced than usual. During the summer the companies from San Diego- Hercules Powder Co. and Swift Kelp Wo ks have been cutting at San Clemente and St.Nicolas Is. During the first part of Aug. they cut for a short time off Point Loma on account of having trouble with their harvestors. The cut until the middle of September was good when they finished cutting along the Coast as far Nor h as La Jolla. At this time the outlook was good for about six weeks cut from La Jolla to San Juan Capistrano. However when the harvestors went up the Coast they found the kelp was very thin. This condition prevailed within a few days as I came down along the Coast about the tenth when the beds appeared in excellent condition. As a result the companies ahve sent their harvestors back to the islands but from a direct report hat I had from a boat of the Scripps Institution the outlook at their regular island beds was very poor so that the supply seems about cut out. This condition we may expect to prevail for another six weeks when the plants will have an opportunity to regain their normal growth again. We have had some very hot spells and these spells one of which was from the 8th to 12th of this month

seems to cook the upper portions of the kelp and stop all growth for the time being when the beds seem to disappear. This disappearance seems to be due to two causes namely a sloughing off of the kelp and also a lessening of the flotation powers of the kelp so that a portion of the kelp sinks. As a result the upper parts of the beds are below the cutting depths of the knives.

On account of this report coming in I left on the 24th of September and drove up along the Coast through to Laguna and the beds were practically disappeared. However I discovered that a great quantity of kelp which was the whole plant with holdfasts attached appeared along the Coast opposite where the beds normally are. This condition I attribute to very high and strong seas that we have had from the 15th to the 20th and which were probably the offshoots of the severe weather off the Mexican Coast. The sum total is however that the shore beds to this point are gone for the present. Passing Laguna I left the shoreline and drove to Long Beach where I made my headquarters.

Sept. 25.th I drove to San Pedro and out along the shore looking at the beds at Point Fermin and Whites Point. As these had been cut rather recently, they appeared to be normal but with little crop on them. I then visited Diamond Match Co. and had a talk with Mr.Due Manager who described the difficulties that they were having. They have been over to Santa Cruz Is., to Santa Rosa Is. as well as along the Coast adjacent to Wilmington and now they are up against as to where to go next as he did not think the Redondo bed was in shape to go into.

On 26th, I went to Redondo to see the conditions there. This bed

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

was cut the middle of August on account of dry rot appearing and as it has had but six weeks rest, it does not appear strong enough to cut at the present time altho according the State Ruling it is open to cut tomorrow. I suggested that the companies get together and see if they could not arrange to hold off at least until the middle of the month so as to give the bed a fairer chance. Two weeks will undoubtedly make a great difference in this bed. I shall hear tomorrow probably the result of their conference.

On 27th I again went to San Pedro and went over conditions with Mr.Midever of the Sate Fish and Game Commission. He recently was on patrol duty all along the Coast. His observations bear out the observations of the various companies.

On the 28th, I visited Pacific Produsts Co. and Sea Products Co. t at Long Beach. They are also scouting about trying to find kelp and seem to be ready to enter into an agreement to practically shut down for a month to let the kelp get back to a normal condition.

On the 29th I came back down the Coast retruning to La Jolla at 5:30 P.M.

I also got reports from up along the Coast and there see s to be little kelp except some small patches near Point Conception where Lorned Mnf. Co. is harvesting. From San Pedro to Gavi ota seems to be out for the present;

During the first of September, I was able to get the Army Aviation School to set aside their closing of the water front off Bed #1 so that the San Diego Companies might harvest it. This region is now

used as a target grounds.

The general conclusions of the present work are that when the "rot" appears to have the beds cut clean at once and that the beds are the better for this cutting.

When the hot spells come that we must look for a disappearance of the beds practically for a time after the hot spells. This condition now has prevailed for three years and so seems to be a normal condition.

That for the next month or six weeks the cutting is going to be short.

That up until the last few days the cut has been excellent and all the plants have been doing remarkably well.

That there are in addition to the larger plants a considerable number of handpicker barges and these have done well until within the last few days.

That Mexico seems to have dropped the kelp harvesting for the present at least.

Yours truly

Collaborator.

Form 1204

CLASS OF SERVICE	SYMBOL
Telegram	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a telegram. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Telegram	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a telegram. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT

1 BY W 73 NL

SANTABARBARA CALIF 29 OCT

W C CRANDALL SCRIPPS INS LAJOLLA CAL

REFERRING TO FISH AND GAME COMMISSIONS ORDERS ON CLOSING KELP BEDS WE NOTE THAT BED NUMBER TWENTY TWO IS TO BE CLOSED INDEFINITELY FROM NOVEMBER FIRST OWING TO POOR GROWTH WE HAVE BEEN UNABLE TO CUT IN THIS BED BUT BELIEVE WE COULD GET A FEW LOADS THERE NEXT MONTH AS IT IS LOOKING BETTER THAN ANY OTHER BED WOULD YOU GRANT PERMISSION TO CUT IN BED BEYOND NOVEMBER FIRST WIRE OUR EXPENSE.

THE LORNED MAFG CO 808A 30TH

Fosed Capt Crandall
8 40 am
W.

Form 1207

CLASS OF SERVICE DESIRED	
Telegram	
Day Letter	
Night Message	
Night Letter	

Patrons should mark an X opposite the class of service desired; OTHERWISE THE MESSAGE WILL BE TRANSMITTED AS A FULL-RATE TELEGRAM

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

Receiver's No.
Check
Time Filed

Send the following message, subject to the terms on back hereof, which are hereby agreed to

Oct 30 191 8

To Lonyd Mrf. Co
Summit Land, Cal

Capsize recommend cutting Twenty Ten
until after Winter Storms.

Gardner

Send Contract

SENDER'S ADDRESS FOR ANSWER

SENDER'S TELEPHONE NUMBER

ALL MESSAGES TAKEN BY THIS COMPANY ARE SUBJECT TO THE FOLLOWING TERMS:

To guard against mistakes or delays, the sender of a message should order it REPEATED, that is, telegraphed back to the originating office for comparison. For this, one-half the unrepeated message rate is charged in addition. Unless otherwise indicated on its face, THIS IS AN UNREPEATED MESSAGE AND PAID FOR AS SUCH, in consideration whereof it is agreed between the sender of the message and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any UNREPEATED message, beyond the amount received for sending the same; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any REPEATED message, beyond fifty times the sum received for sending the same, *unless specially valued;* nor in any case for delays arising from unavoidable interruption in the working of its lines; *nor for errors in cipher or obscure messages.*

2. In any event the Company shall not be liable for damages for any mistakes or delays in the transmission or delivery, or for the non-delivery, of this message, whether caused by the negligence of its servants or otherwise, beyond the sum of FIFTY DOLLARS, at which amount this message is hereby valued, unless a greater value is stated in writing hereon at the time the message is offered to the Company for transmission, and an additional sum paid or agreed to be paid based on such value equal to one-tenth of one per cent. thereof.

3. The Company is hereby made the agent of the sender, without liability, to forward this message over the lines of any other Company when necessary to reach its destination.

4. Messages will be delivered free within one-half mile of the Company's office in towns of 5,000 population or less, and within one mile of such office in other cities or towns. Beyond these limits the Company does not undertake to make delivery, but will, without liability, at the sender's request, as his agent and at his expense, endeavor to contract for him for such delivery at a reasonable price.

5. No responsibility attaches to this Company concerning messages until the same are accepted at one of its transmitting offices; and if a message is sent to such office by one of the Company's messengers, he acts for that purpose as the agent of the sender.

6. The Company will not be liable for damages or statutory penalties in any case where the claim is not presented in writing within sixty days after the message is filed with the Company for transmission.

7. *Special terms governing the transmission of messages under the classes of messages enumerated below shall apply to messages in each of such respective classes in addition to all foregoing terms.*

8. *No employee of the Company is authorized to vary the foregoing.*

THE WESTERN UNION TELEGRAPH COMPANY
INCORPORATED
NEWCOMB CARLTON, PRESIDENT

CLASSES OF SERVICE

TELEGRAMS

A full-rate expedited service.

NIGHT MESSAGES

Accepted up to 2.00 A.M. at reduced rates to be sent during the night and delivered not earlier than the morning of the ensuing business day.

DAY LETTERS

A deferred day service at rates lower than the standard telegram rates as follows: One and one-half times the standard Night Letter rate for the transmission of 50 words or less and one-fifth of the initial rates for each additional 10 words or less.

SPECIAL TERMS APPLYING TO DAY LETTERS:

In further consideration of the reduced rate for this special "Day Letter" service, the following special terms in addition to those enumerated above are hereby agreed to:

A. Day Letters may be forwarded by the Telegraph Company as a deferred service and the transmission and delivery of such Day Letters is, in all respects, subordinate to the priority of transmission and delivery of regular telegrams.

B. Day Letters shall be written in plain English. Code language is not permissible.

C. This Day Letter may be delivered by the Telegraph Company by telephoning the same to the addressee, and such delivery shall be a complete discharge of the obligation of the Telegraph Company to deliver.

D. This Day Letter is received subject to the express understanding and agreement that the Company does not undertake that a Day Letter shall be delivered on the day of its date absolutely and at all events; but that the Company's obligation in this respect is subject to the condition that there shall remain sufficient time for the transmission and delivery of such Day Letter on the day of its date during regular office hours, subject to the priority of the transmission of regular telegrams under the conditions named above.

No employee of the Company is authorized to vary the foregoing.

NIGHT LETTERS

Accepted up to 2.00 A.M. for delivery on the morning of the ensuing business day, at rates still lower than standard night message rates, as follows: The standard telegram rate for 10 words shall be charged for the transmission of 50 words or less, and one-fifth of such standard telegram rate for 10 words shall be charged for each additional 10 words or less.

SPECIAL TERMS APPLYING TO NIGHT LETTERS:

In further consideration of the reduced rate for this special "Night Letter" service, the following special terms in addition to those enumerated above are hereby agreed to:

A. Night Letters may at the option of the Telegraph Company be mailed at destination to the addressees, and the Company shall be deemed to have discharged its obligation in such cases with respect to delivery by mailing such Night Letters at destination, postage prepaid.

B. Night Letters shall be written in plain English. Code language is not permissible.

No employee of the Company is authorized to vary the foregoing.

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C.

November 13, 1918.

MEMORANDUM NO. 257.

Use of Transportation Requests Under Order of the United States Railroad Administration, Dated October 18, 1918.

The United States Railroad Administration having decided that, effective December 1, 1918, the additional charge for passage in sleeping and parlor cars will be represented by the sleeping or parlor car ticket issued for the space occupied, the following procedure, effective on and after that date, will govern the use of transportation requests by employees of the Department of Agriculture:

1. Requests for railroad tickets must be drawn on the railroad company as heretofore, but must not include the additional passage charge. Such requests will be honored only for tickets at coach fares.

2. Requests for sleeping or parlor car accommodations will be assumed to include the additional passage charge for travel in sleeping or parlor cars.

The forgoing instructions, when effective, will supersede the instructions contained in Memorandum No. 241, dated June 8, 1918, relative to the use of transportation requests. It will be noted that under the new instructions it will not be necessary for the traveler to insert on transportation requests any of the special phrases referred to in numbered subsections 1, 2, and 3 of Memorandum No. 241.

In view of the facts that rates between certain points vary over different lines of travel and that this will affect the amount of the additional railroad fare covered by the requests issued to the sleeping or parlor car company, it is of vital importance, for accounting purposes, that the traveler, in preparing a transportation request for sleeping or parlor car accommodations, fill in, after the word "via" on both the transportation request and the coupon (notice of issue of ticket), the initials of the railroad line or lines over which the travel is to be performed.

D. F. Houston.

Secretary.

La Jolla, Cal.

Nov. 28th 1918.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

This is to advise you that yesterday at noon Hercules Powder Co. located at Chula Vista ordered in all their harvestors and gave them orders ro stop. Advises from the plant show that the plant itself will probably run only until the kelp in the plant has been run thru. This will mean that the plant will close down in about two or three months. So far there are no further advises as to the reopening of the plant by either the Hercules Powder Co or by others.

Swift and Co. are apparently going to continue for an indefinite period at least.

Diamond Match Co. also a pears to hold on.

As the price of pot sh has fallen so low, I am of the op nion that Lorned Manufacturing Co., Sea Products, and Pacific Products will not be able to operate at a profit longer and they will then automatically go out of business.

I hope to go over the entire situation within the next two weeks as I feel that you are anxious to know what the reconstruction period is going to do to the kelp industry.

Yours truly

M. C. Crandall

Collaborator

WORKS of

WILLIAM EMERSON RITTER Ph.D.

Director Scripps Institution for Biological Research
La Jolla, Cal.

Publisher
~~Press~~ Richard G. Badger, The Gorham Press, Boston, Mass.
book
Handled by ~~all~~ dealers.

11-29-18

Mr.H.B.Neidever,
Fish & Game Commission,
Los Angeles, Calif.

Dear Sr:-

In view of the changed conditions due to the termination of hostilities, the potash market has deopped to such an extent that it means that we will have to greatly curtail our expenses in order to stay in operation. You are aware that the Hercules Powder Company have withdrawn from the kelp business and as mentioned above we must seriously curtail expenses in order to remain in the business ourselves. Swift & company are very anxious to continue in the business and put the proposition up to the writer to curtail expenses and reduce the cost of operation to the lowest minimum.

One of the heaviest costs which we have at the present time is the harvesting cost and to reduce it means that we must cut kelp nearer to our factory and we are today discontinuing the purchase of hand-picked kelp. This leaves only two parties harvesting kelp in what is known as the hand-pickers bed and their tonnage amounts to only about forty tons per week and it would seem inconsistent that we should leave that amount of kelp for the hand-pickers to harvest. We are therefore withdrawing our agreement regarding the hand-pickers bed and would ask your permission to harvest in such beds with our small boat After talking this

matter over Dr.Crandall he fully agrees that it is the best thing to do. It resolves itself simply into the question shall we or the hand-pickers go out of business. You will appreciate that the investment of this plant is practically a million dollars while the investment of the hand-pickers amounts to only a few dollars. We would appreciate your telegraphing us upon receipt of this letter accepting our withdrawal from the agreement regarding the hand-picker's beds.

Yours respectfully,
SWIFT & COMPANY POTASH WORKS
per H. Watson

Copy to Dr. Crandall.

OCCIDENTAL CHEMICAL COMPANY
902 UNION SAVINGS BANK BUILDING
OAKLAND, CALIFORNIA

December 5, 1918.

Prof. W. C. Crandall,
La Jolla, San Diego Co.,
California.

Dear Sir:

As a shareholder in the enterprise above named, with a plant situated at Summerland, which, through Mr. Lunt, I learned you visited a few days ago, I am rather anxious to have an expression from you relative to the future of the kelp industry.

This primarily because of the recent article in the newspaper about the closing down of the Hercules Plant at San Diego, and any line that you may draw on the subject as to the future market conditions will be greatly appreciated.

Yours very truly,

F. A. Wiecamon

FAW:D

La Jolla, Cal.

Dec. 7th 1918

Mr. A. F. Williams,

Oakland, Cal.

Dear Sir:

Your letter of the 5th at hand. The future of the kelp industry is a grave matter of doubt and I really am unable to fully decide as to what the future means.

For the immediate future I believe there will be a drop due to a buyers combine against present prices and then that there will be a reaction for a time with prices nearlt at thier present level. Then gradually i.e. within probably two years prices will drop to a low level. Whether this level will be too low a level for the present methods or not, I cannot judge. I am hopeful that by-product experiments now under way at the Govern ent plant will develope by-products which will permit the continuation of the kelp industry. However that is rather a hope more than a feeling of a probability.

This is one of the places where each must judge for himself as we are now in such a state of reconstruction that the former rules no longer seem to hold forth.

Yours truly

W. C. Crandall

Reason for Disappearance of Kelp. P. 2-3
Possible Cessation of Industry

Dec.9th 1918.

Chief,Bureau of Soils,

Washington,D.C.

Dear Sir:

On Nov.27th,Hercules Powder Co. closed down the harvesting of kelp and notified all persons with whom they had contracts to cancel the contracts except for such adjustments as were due to work partially completed, and also notified the public that as soon as the material still in the factory was run through, that the factory would close down. This will amount to about three months work. At once they set about trying to sell their harvestors. On account of the local "Flu" situation, I am unable to report to what extent they have been successful in this sale. They have also offered the rest of the plant to Swift and Co. but the offer was turned down.

Reallizing that this act on the part of the Hercules Powder Co. would have an immediate effect on the nerves of the other companies, I at once det about to get in personal touch with the remaining firms:

I first saw Capt.Watson,Manager of Swift and Co.Kelp Works at San Diego. He stated that he had already heard from his company and that they had put it up to him to see if production costs might not be reduced and so keep the plant running. He at once set about the abrogation of the agreement held between Hercules Powder Co.,Swifts and the handpickers on bed #2 so that he might reduce his length of haul. He figured that he could reduce his bed necessities to #1,2,3,4,5,6,7. This would eliminate all the island hauls. He also cancelled all his contracts with certain handpickers that he had been buying wet kelp from at the rate of $1.75 per

from at the rate of $1.75 per wet ton. This places him with two harvesters and reduces his waste time to a minimum. At this time Swift considers the price of potash to be $3,00 a unit eastern seaboard. Also that they can stay in business profitably at that igure with the changes Watson has suggested. Another problem confronting them however is the City Council who object to the fumes of the plant and who may order Swifts to move or else burn their fumes. Now that the war necessity is over, the former arguments that were used must be discarded. I doubt whether Swifts remain in business for any great length of time.

I then took the Scripps Institution auto and went to Santa Barbara on Sunday Dec.1st. I drove through during the day and then met with Dr.Turrantine and Mr.Harris of the Horned Manufacturing Co. Sunday evening. I was particularly anxious to see Dr.Turrentine and go over with him the progress made along the experimental lines. I knew that I would be besieged with inquiries when I went to see the trade. After an evenings general talk, I went the next morning to the Santa Barbara papers and palaced before them the facts that Mr.Brandt and I had found out during the last 18 mos. concerning the probable factors that were causing the kelp to disappear during the Fall. From information gained by different members of the Scripps Institution and from observations made while acting as Fish Administrator for So. Cal., I concluded that that probable reasons for the disappearance of kelp were due to stagnation of water due to the lack of usual northwest winds, unusual number of sunshiny days, and the practical absence of the usual upwelling of water along this coast. As a result the stagnant water was of warmer temperature than usual, this resulting temperature was such that the photosynthetic powers of the plants were reduced, i.e. oxygen was less in quantity as was carbon dioxide and the plants were not healthy so the usual growth and storage was less ened The experience of the various factories bore this condition out as they

they found their recovery considerably below te ave age and the appearance of the plants was a lighter brownish yellow while there was an absence of the usual viscous fluid. On Monday afternoon, I visited the various plants at SummerlandNamely the Government Plant where I went over in detail with Dr.Turrentine the steps he had already taken and noted the advances he has made. From the study of these, I can see that he should be aided in his work and that as he gets results even though they are not completed results that they should be advanced to the trade so that no opportunity may be lost in keeping the men in the trade to continue in the trade. To break in an entirely new group of men later on would be lost effort to a certain degree. So I hope that the work of the Gov't Plant may be augmented and results rushed as fast as possible for the good of the industry. By-products msut serve as the bulwark for the future kelp industry.

I then had a conference with Mr.Harris. His firm is in the dark as to future action but he assured me that he believed they would scrap the plant as soon as potash dropped to below $3.50 Eastern seaboard. The action of this firm is to watch the market carefully and be ready to scrap at once. They have at present a contract at $4.25 that will take them until Feb. if the contract is not cancelled.

I then saw Mr.Lunt of the "Occidental Chemical Company". He was all questions and did not have any definite idea as to what his company had in mind. However if the price of potash breaks to any extent, then this company would have to give up. At present hey are renting their harvestor from the Sea Products Co. and Sea Products is getting its pay by taking the ash that is put out. I have also received a letter from one of the officers of this company and he is doubtful regarding the future of the company.

Monday evening, I again had a talk with Dr.Turrentine and asked him to stay by the ship and get the by-products to the fore as soon as possible

knowing full well that somethings cannot really be hurried.

Tuesday morning I left for Los Angeles and there met Mr. Innis of the Pacific Products Company. I found that he had already offered his new harvestor for sale on Nov.11th beating the Hercules about 15 days. He had figured that this condition was coming and so was trying to get into the clear. However, he was open to suggestions and I talked by-products to him. I suggested that the get in touch with one of the better of the Hercules chemists and see if he could not get something going along that line after a conference was held with Dr.Turrentine as to probably by-products. I suggested to him that an outlay of a sum at this time would be the best ~~tie~~ opportunity that he would ever have to gamble with the kelp industry. However if kelp goes much lower, I look for Pacific to close its plant. At present they are sending their ash to Canada. Price 4.25

Wednesday I went to San Pedro and had a long talk with Mr.Nidever of the Cal. State Fish and Game Commission relative to Mr.Watson's action at San Diego in going into bed #2 and also asking him concerning his views on the gentlemen's Agreement held in the various districts of So. Cal. I felt that either a new agreement should be drawn up or at least the old one abrogated. He agreed the companies should notify him of their desire to abrogate the agreement and agreed to open up some of the beds sooner than the present closing order permits.

Thursday evening I met Mr.Judson of the Sea Products Co. He stated that he would close down if potash went below $4.00 perunit. That he was at present in a position to keep going except for can celled contracts until the first of February. That most sales were now spot sales and he did not expect any other kind until spring when he could tell whether he could go on or not. He did not feel that this was the time to scrap on account of the low price of scrap now. However he has scraped already the plant known as the Oceanic Engineering Co. I took up the matter of

by-products with Judson and he promised to see Ennis at once and see if they could not come to some sort of an arrangement to try and put this over.

I then saw Mr.Clendennon of the Pacific Products who was after information concerning the cutting of the beds. As I had already talked with Mr.Ennis, I did not take up anything further with him.

Mr.Due of the Diamond Match Co.,I missed this trip but as I saw him a short time ago and he ex ressed himself as of the opinion that Diamond Match Co. w ould take kelp as long as that was their best market, I felt that he would stay in the market for some time.

On Thrrsday morning I went to Nidever's Office again and he agreed to try and help the local companies in going into an immediate study of the by-products along the lines I had suggested. What may come of this ,I cannot sa y. I am afraid that the c mpanies will be closed before we can get action.

However I do not feel that the present market is going to fall entirely at this time. The big mixers are trying to pull the price down as for instance Swift's who now try to quote potash at $3.00 eastern sea board. However the small mixers cannot get their potash so easily and do not have their own plants so they are paying $4.25 at present. It then would s em to be a buyers market at present and that would probably mean th t a little lat r we will have a sellers market at a gigher or at least at no lower price. The hope for the industry here is in the small buyer for mixing and not with the big buyers. The piling up of Nebraska potash in the East has sent the local industry into Canada for its market.

General conclusion is that with potash on a sliding scale downward, we will see the gradual elimination of the kelp industry on the West Coast unless by-produ ts are developed at once.

I anticipate being in Washington in January and then hope to be able to

go into this whole matter more carefully.

I trust thatthis may give yuo a general viewpoint of the men in the industry.

I also hope that we may have the experimental work continued even more vigorously in the future than in the past.

Sincerely yours,

W. C. Crandall

Collaborator.

La Jolla

La Jolla, Cal.

Dec. 10th 1918.

Diamond Match Co.,

San Pedro, Cal.

Dear Sirs:

Complaint has come to this office relative to the destroying of lobster pots by your boat the "Diamond Queen". The complainant is George Romans of the Twin XX. These traps are placed on the edge of kelp beds between Point Vincent and Whistling Buoy.

Kindly take this matter up through the office of Mr. Hendrickson / Fish Administration Deputy together with Mr. Nidever of the Fish and Game Commission so that whatever injustice is being done may be corrected.

I am not in possession of the complete data but for the good of all this matter should have immediate attention.

Yours truly

Federal Fish Administrator So. Cal.

La Jolla, Cal.

Dec.18th 1918.

Dr.J W.Turrentine,

Summerland,Cal.

My dear Turrentine:

Yesterday I was able to get hold of Bonfield for the first time. I took up the matter of perpetuating the results gotten from their plant. He said that Mr.Markel had taken the matter up with the War Industries Board a d so he knew that his company was willing to have all the work put into permanent form. The War Industries Board wanted to go ahead but could not find a method for doing it. When I suggested to him that this work was really in line with the work being done by the Bureau of Soils and that it might be possible to get the matter printed by the Department, he expressed the hope that it might be done.

I have asked Mr.Bonfield to write out the more salient points about their work as well as a list of the incomplete work that they had originally intended to complete. At this time, it might be possible that some of this might be carried through to its completion and that we would never have another chance.

Apparently here is a big chance if we can take advantage of it and it is naturally work that shou d come under your supervision. It might be a good thing for us to get together on some well defined attitude and then jointly ornseverally submit some suggestions to Washington. Let me know what you think about it.

Sincerely yours,

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

December 20, 1918.

Capt. W. C. Crandall,
Scripps Marine Station,
La Jolla, California.

Dear Crandall:

I have your esteemed favor of the 18th instant conveying interesting suggestions.

I had already taken up the matter of publishing the Hercules data with Dr. Sherwood, and was only awaiting some information as to how the Company would feel about it before putting the matter up to Mr. Markell. I am glad to hear that you spoke to Mr. Bonfield on the subject, and that he apparently acquiesced. I think we are both agreed as to the importance of getting the Hercules researches on kelp into printed form, and I have no doubt that we shall be able to arrive at some definite working plan.

Dr. Sherwood writes me that Mr. Berekely started investigations about six months ago on the fermentation, starting from a "real scientific standpoint," using Sherwood's words. Since Hercules has discontinued fermentation, I assume that Mr. Berkeley's work will be discontinued. In that case, provided he has got far enough with his investigations to indicate that he is going to arrive somewhere, I do not believe there would be any difficulty in getting him transferred to our payrolls so that he could continue his work for a period at any rate. This possibly could be done at Chula Vista, although we might find room for him here. This is only a suggestion, and I hope you will not mention it until we have had the opportunity of giving the idea more mature thought.

The second line of attack that occurs to me is to employ the requisite stenographic force, take them to Chula Vista, and have them copy or receive the dictation covering the data procurable there. Of course, it would suit us better to have Dr. Sherwood come here (with his bride!) where he could dictate outlines of the work, which could then be copied and filled in later.

Dr. Sherwood writes that he does not yet know what Mr. Markell's attitude is, and that also there are certain lines of work which they intend to continue which they do not wish to publish. He objects also that a great deal of the work was done on the large scale without the strictest regard to the scientific side of it. He offers this as an objection, but to my mind it only means that the data must be sorted and that which is publishable taken and that which is not discarded.

But, at present the next step seems to get Mr. Markell's sanction. Then I have no doubt that we can work out some scheme for transcribing the data into publishable form.

I have no idea that there will be any objection to our using a portion of our funds to the above ends since it is entirely fitting for us to publish this data already worked out which, you will recall, is data which we expected to work out ourselves when time permitted.

I shall write to Mr. Markell, telling him what we have in our minds to see if we cannot get his sanction for the proposal.

With kindest personal regards,

Yours very sincerely,

J. W. Turrentine
In Charge.

JWT:ELB

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.
INVESTIGATION OF FERTILIZER RESOURCES.
EXPERIMENTAL PLANT FOR THE EXTRACTION OF POTASH FROM KELP.
SUMMERLAND, CALIFORNIA.

December 26, 1918.

Capt. W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Crandall:

On Monday Dr. Spencer had finished a comparison of kelp charcoal, obtained from our retorts, with some of the special absorbent charcoals considered the best on the market, and found that our material, produced on the large scale at about 1800°, was seven times as good. These results are so much better than we anticipated that we are considerably elated over them and believe that we have solved the problem of the production of the best grade of absorbent charcoal as a straight by-product of our process. So far we have not gotten sufficient data on the commercial end of the game to say where we stand there; but other things being equal, I see no reason why we should not produce all of the absorbent charcoal used in American chemical industries, and get a good price for it.

Our retorts are running better now than they ever have before, yielding a much larger output with less trouble. Altogether that feature of the process looks very encouraging, indeed.

Shoaff, returning from his Christmas vacation at Long Beach, reports the Diamond Match closed and undergoing dismantling, and Judson running only one-half of his plant. Ennis, I believe, has also shut down temporarily, at least, waiting to see what the price is going to do. Lorned here is still operating, but what they will do in the immediate future, I do not know.

Are you still planning to go east? If so, I should like to see you before you go for a discussion of some matters which I prefer not to commit to paper. If you will let me know when you are about to start, I can probably meet youin Los Angeles, provided you go east from there. If you go by San Francisco, it ought to be a simple matter for you to secure a few minutes' conference.

Thanking you for the esteemed card of Christmas greetings received from you and Mrs. Crandall, and with kind personal regards to you both, I am

Yours very truly,

Burleson Hills

J. W. Turrentine
In Charge.

JWT:ELB

La Jolla, Cal.

Dec. 31 1918.

Dr. J. W. Turrentine,

Summerland, Cal.

My dear Dr. Turrentine:

I was delighted to get your letter of progress and hope that the commercial end will come out ultimately as well as the laboratory end.

My trip to Washiggton is off as the Government has cancelled the order for trawlers and that was the job I was on. So I'll simply be here on the job as usual. I hope to see you soon though as I want to see this work of the Hercules Plant in permanent form.

Enclosed find the years record of harvest as well as a comparative table for the years 1916, 1917, and 1918 to Nov. 1st . Some rahter interesting facts show in the comparison.

I trust you have had a pleasing holiday season and appreciate the card of wishes to the lady and myself. With best wishes for a successful and happy New Year, I am

Very sincerely yours

W. C. Crandall

La Jolla, Cal.

Dec. 31st 1918.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Enclosed is the harvest of kelp by company for the year 1918 up to Nov. 1st.

Also enclosed a comparative table of the harvest for the years 1916, 17, 18 to Nov. 1st.

Diamond Ma tch Co has already scraped its plant.

Hercules have sold all harvesters, tugs etc.

They are willing to give all their data to the Federal Government as a permanent record and aid the Bureau in completing s me of the incomplete work. This I have taken up with Dr. Turrentine as it is, I take it, a part of the experimental work that the Bureau wants. This matter should be hastened and rushed so as to take advantage of the greatest opportunity the Bureau will have for this experimental work as the men on the work can now be secured who know what has been done as well as to what has to be done.

Sea Products expects to run for six weeks.

Pacific Products expects to run until some time in January.

Now is the most important time in the kelp industry so far as the experimental work is concerned and I look to see the Bureau get all the present knowledge in permanent shape for an industry that will not be a war bride.

Yours truly

W. C. Crandall

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

INVESTIGATION OF FERTILIZER RESOURCES.

#2.

U.S.Kelp Investigations — Not Started.

So.Reduction Co. — Out of business.

United States Potash and Fertilizer Co. — No work on plant

International Potash Properties — S.N.Golden Consltg Eng.
Merchants Nat. Bank Bldg. L.A.
NO PLANT * Stock selling?

Kelp Beds:

Carpenteria - Point Conception		Virgin Beds.
	Excellent Conditinn.	
Point Dume	Recently cut	Fair shape
Point Vincente	" "	Poor
Point Fermin	" "	Poor
Santa Barbara Islands		Virgin
Santa Barbara Island		Fair
San Clemente	Cutting	Poor
San Juan	Cut 6 weeks	Fair
La Jolla	Cut 4 weeks	Fair
Point Loma	Cut 4 weeks	Fair.

Conditions for continuous cutting fair for all companies and excellent for companies north of Carpenteria.

Latest interesting company started on paper is the International Potash Properties:

Claim process absolutely the only one on the market and the blue prints shows a long furnace about 50' From the top of this every four feet there is a patent burner that shoots downward under pres-

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

sure onto kelp that is carried along on a continuous belt. These burners and the rate of speed of the belt is controlled by push buttons under the thumb of the engineer. Also the rate with which the flame is shot through the kelp is control ed. According to the scheme, I learned that a small amount of gasoline if sprayed properly and then forced out with a velocity of thirty, or sixty miles per hour would produce unknown quantities of heat. I enquired about the possibilities of getting more B.T.U.s than gasoline is popularly supposed to have and was easily assured that any amount of heat was really obtainable. The only require ment apparently is speed. Small additional accessories are anticipated namely an S chimney, automatic feede etc. The firm has a nice set of offices but are surprised at the lack of enthusiasm that the public is showing for the new process.

Need supply of credulous lumps to take care of this latest.

Yours truly

Collaborator.

THE SCRIPPS INSTITUTION FOR BIOLOGICAL RESEARCH
OF THE
UNIVERSITY OF CALIFORNIA

LOCATED AT LA JOLLA
NEAR
SAN DIEGO, CALIFORNIA

LA JOLLA, CALIFORNIA,

Dec 31/18

H. B. Nideven.

This is up to date of Jan. 1st/19.
Will get additional data next
time I am up

Cleveland

1918 Kelp Harvest.

	Jan	Feb	Mar	Ap.	May	June	July	Aug	Sept	Oct
Hercules	26700	19065	31635	26795	24180	21000	21600	30525	19925	19075
Swift	5121	1681	2455	3505	1968	779	3400	5180	5935	4375
Diamond	3033	1621	3091	4637	5118	5171	3957	4008	852	1960
Pacific Products					5333	789	2433			
Sea Products	2107	510	1525	1730	2140	1750	2477	1860	1150	1800
Lorned	2950	1641	1435	3163	2065	1728	3222	4249	4456	4500
Hand Pickers	1846	1496	766	2038	3164	3547	3302	3646	2618	2070
Occidental	896						666			
Federal Kelp	465	640	985	1141	1720	218	1026	1039	469	
Incidental			24		150	40			20	
	43118	26654	41916	43009	45838	35022	42083	50507	35425	33780

THE COMPARATIVE HARVESTS FOR KELP

	January			February			March			April		
Bed	1916	1917	1918	1916	1917	1918	1916	1917	1918	1916	1917	1918
1	--	--	--	--	--	3900	--	--	--	--	--	--
2	--	--	1846	--	--	1496	--	--	766	--	--	2038
3	--	25190	14790	--	26335	8875	--	19540	--	--	2500	8740
4	--	4960	14726	--	1753	5746	--	2265	--	--	--	--
5	--	--	1110	--	--	--	--	--	4592	--	--	--
6	--	--	1195	--	--	--	--	--	7047	--	--	--
7	--	--	--	--	--	--	--	--	4592	--	--	--
8	--	--	--	--	--	--	--	--	4592	--	--	--
9	--	--	--	--	--	--	--	--	4592	--	--	--
10	--	--	--	--	--	--	--	--	--	--	--	--
11	1424	5553	--	3310	3869	2131	3310	3869	24	3310	4378	--
12	--	--	--	--	--	--	--	--	--	--	--	--
13	--	--	5095	--	509	--	--	3812	--	--	2232	6367
14	--	1397	--	--	1267	--	--	--	4616	--	284	--
15	--	--	--	--	--	--	--	--	--	--	138	--
16	--	--	--	--	--	--	--	509	--	--	3612	--
17	--	--	--	--	--	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--	--	--	--
20	--	--	3846	--	--	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--	--	985	--	--	1141
22	--	--	--	--	--	--	--	--	--	--	--	3163
23	--	--	465	--	--	640	--	--	--	--	--	--
24	--	--	--	--	--	1641	--	--	--	--	--	--
25	--	--	--	--	--	--	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--	1435	--	--	--
27	--	--	--	--	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--	--	--	--
29	--	--	45	--	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--	--	--	--	--	--
34	--	--	--	--	--	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--	--	--	--	--	--
36	--	--	--	--	--	--	--	--	--	--	3070	--
37	--	--	--	--	--	--	--	--	--	--	--	--
38	--	--	--	--	--	--	--	--	--	--	--	--
39	--	--	--	--	--	--	--	--	--	--	--	--
40	--	--	--	--	--	--	--	--	--	--	1860	--
41	--	--	--	--	--	--	--	--	--	--	--	--
42	--	--	--	--	--	--	--	--	--	--	--	--
43	--	--	--	--	--	--	--	--	--	--	6175	21560
44	--	--	--	--	--	--	--	--	8675	--	--	--
45	--	--	--	--	--	--	--	--	--	--	--	--
	1424	37100	43118	3310	33733	26654	3310	29995	41916	3310	24249	43009

THE COMPARATIVE HARVESTS FOR KELP.

Bed	May 1916	May 1917	May 1918	June 1916	June 1917	June 1918	July 1916	July 1917	July 1918	August 1916	August 1917	August 1918
1	--	900	1950	--	1465	625	--	--	1010	--	--	--
2	--	--	3164	--	--	3547	--	--	3692	--	--	4901
3	--	17726	11998	--	6950	1175	--	1200	1200	20000	1200	16525
4	-6	8200	8250	--	1405	--	--	--	--	15000	--	--
5	--	1300	3950	--	--	--	--	450	--	--	--	--
6	--	--	--	--	2410	3600	--	--	--	--	--	--
7	--	--	--	--	5850	4379	--	--	--	--	--	--
8	--	--	--	--	3400	3600	--	100	--	--	--	--
9	--	--	--	--	3823	3600	--	--	--	--	--	--
10	--	--	--	--	1350	--	--	--	100	--	--	--
11	3310	6001	12591	3310	5997	--	3310	--	--	2784	--	2354
12	--	100	--	--	1297	--	--	1508	--	--	2092	--
13	--	528	--	--	4261	--	--	1026	6393	--	208	--
14	--	4737	--	--	1251	7309	--	1106	--	--	1368	1780
15	--	--	--	--	--	--	--	--	--	--	--	949
16	--	1019	--	--	1022	401	--	2151	1112	--	299	--
17	--	--	--	--	--	--	--	--	--	--	--	--
18	--	--	150	--	--	40	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--	--	--	--
20	--	--	773	--	--	80	--	202	1104	--	216	152
21	--	--	--	--	--	53	--	31	310	--	--	--
22	--	--	496	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	85	--	--	617	--	--	174
24	--	--	2065	--	--	--	--	--	--	--	206	106
25	--	--	451	--	--	--	--	--	--	--	--	97
26	--	--	--	--	--	1728	--	--	76	--	--	--
27	--	--	--	--	--	--	--	--	159	--	--	61
28	--	--	--	--	--	--	--	-148	2385	--	543	539
29	--	--	--	--	--	--	--	--	787	--	--	708
30	--	--	--	--	--	--	--	--	138	--	120	1681
31	--	--	--	--	--	--	--	--	--	--	--	2035
32	--	--	--	--	--	--	--	--	--	--	--	--
33	--	--	--	--	--	--	--	--	--	--	--	--
34	--	--	--	--	--	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--	--	--	--	72	--
36	--	1200	--	--	1150	--	--	--	--	--	--	--
37	--	--	--	--	--	--	--	--	--	--	1984	345
38	--	--	--	--	--	--	--	--	600	--	42	1?5
39	--	--	--	--	--	--	--	--	--	--	87	--
40	--	--	--	--	--	3100	--	681	--	--	800	--
41	--	--	--	--	--	1700	--	7850	22400	--	14325	2750
42	--	--	--	--	--	--	--	--	--	--	--	--
43	--	--	--	--	--	--	--	8450	--	--	2050	15175
44	--	--	--	--	--	--	--	--	--	--	--	--
45	--	--	--	--	--	--	--	--	--	--	--	--
	3310	41,711	45838	3310	41,631	35,022	3310	24,903	42,083	37,784	25,612	50,507

THE COMPARATIVE HARVESTS FOR KELP

	September			October			November			December		
Bed	1916	1917	1918	1916	1917	1918	1916	1917	1918	1916	1917	1918
1	--	--	5043	--	1400	1105	--	285	--	--	--	--
2	--	--	2720	--	--	3215	--	--	--	--	--	--
3	--	4465	465	--	6975	--	8055	1000	--	22795	4000	--
4	--	500	13000	--	--	--	4640	--	--	--	--	--
5	--	--	2385	1075	16135	75	--	--	--	--	4350	--
6	--	--	--	--	300	--	--	1920	--	--	--	--
7	--	--	135	4680	--	--	--	1920	--	--	--	--
8	--	--	--	800	--	--	--	1920	--	--	--	--
9	--	--	--	--	--	--	--	1920	--	--	--	--
10	--	--	600	--	600	248	--	3120	--	--	--	--
11	4165	--	57	4165	0	1960	5062	--	--	5062	--	--
12	--	--	--	--	--	--	--	5531	--	--	--	--
13	--	--	--	--	6912	--	--	--	--	--	--	--
14	--	4563	47	--	--	900	--	--	--	--	7913	--
15	--	--	20	--	--	--	--	--	--	--	235	--
16	--	680	200	--	117	--	--	1871	--	--	1291	--
17	--	--	97	--	--	--	--	--	--	--	--	--
18	--	--	--	--	--	419	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--	--	1600	--
20	--	--	30	--	--	434	--	611	--	--	64	--
21	--	--	--	--	--	--	--	--	--	--	--	--
22	--	--	--	--	--	314	--	--	--	--	--	--
23	--	--	--	--	--	65	--	--	--	--	--	--
24	--	--	--	--	--	--	--	439	--	--	--	--
25	--	--	--	--	--	--	--	--	--	--	--	--
26	--	--	--	--	--	231	--	529	--	--	106	--
27	--	--	--	--	--	--	--	--	--	--	--	--
28	--	--	25	--	--	710	--	840	--	--	1101	--
29	--	--	90	00	--	135	--	--	--	--	--	--
30	--	1106	529	--	2218	116	--	376	--	--	--	--
31	--	--	3760	--	--	11849	--	--	--	--	--	--
32	--	--	441	--	--	129	--	--	--	--	--	--
33	--	--	651	--	--	350	--	--	--	--	--	--
34	--	--	--	--	--	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--	--	--	--	--	--
36	--	--	--	--	--	--	--	--	--	--	--	--
37	--	--	510	--	--	550	--	--	--	--	3175	--
38	--	--	440	--	--	--	--	--	--	--	--	--
39	--	--	--	--	--	--	--	--	--	--	--	--
40	--	435	--	--	142	--	--	800	--	--	122	--
41	--	6490	4150	--	350	4725	--	10025	--	--	--	--
42	--	--	--	--	373	700	--	--	--	--	20	--
43	14970	14500	--	--	--	5550	--	3475	--	--	7220	--
44	--	--	--	--	--	--	--	--	--	--	--	--
45	--	--	--	--	--	--	--	--	--	--	--	--
	19135	32739	35425	10720	35522	33780	17757	36582	--	27857	31197	--

Year 1916 - 134537 Year 1917- 394974 Year 1918- 390863

235 Maine St. Long Beach Cal.
Dec. 29" 1918

Mr. W. C. Crandall –
Dear Sir –

I was at San Diego for a year and left there last December. I had a small tow boat and barge and did business with Swift & Co. in kelp line. On account of the order to keep off certain beds south of Pt. Loma I withdrew my interest with partner I had.

I figured on a little larger scale when things looked reasonable to proceed.

Mr. Watson of Swift & Co. and I had some sociable talks together, during which he mentioned you as an authority on that line, and I should have called upon you before leaving S.D. but had to go East on a business matter.

shortly. If not may I have the pleasure of calling on you at La Jolla about a week from now.

Sincerely yours

Chas. E. Gore

As I understand it all of the kelp firms, including those at San Pedro are closing down, and I naturally figured it was a war matter.

Now what I am getting at is this. Is there a market for the product. I am told here it costs more to extract desired chemicals from kelp than to get them elsewhere.

I would prefer to talk to you personally on this matter, as I can get the financial support, and if I can be of any service to you, would be pleased to render any favor in return for your kindness and advice.

Please let me know soon as possible if the matter is a dead issue, and if you coming to Los Angeles